

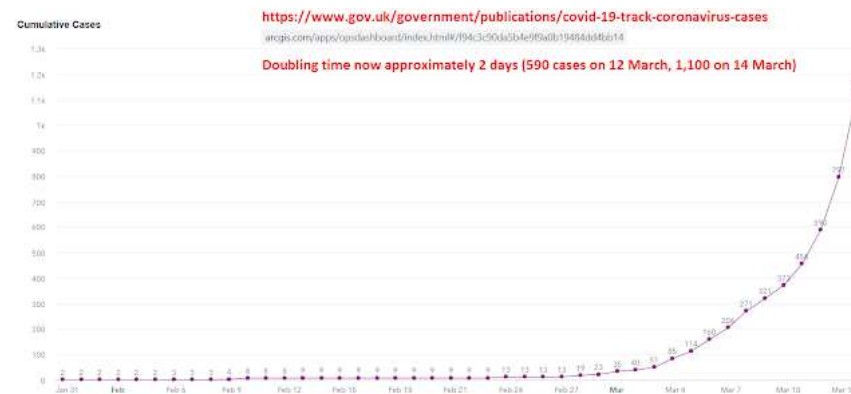
The effects of nuclear weapons. Credible nuclear deterrence, debunking "disarm or be annihilated". Realistic effects and credible nuclear weapon capabilities for deterring or stopping aggressive invasions and attacks which could escalate into major conventional or nuclear wars.

Saturday, March 14, 2020

Gas masks or EH20 escape hoods as an alternative to economic disruption due to coronavirus covid-19

UK cumulative covid-19 cases doubling time has now fallen to about 2 days, going from 590 total cases on 12th to 1100 on 14th

March: <https://www.gov.uk/government/publications/covid-19-track-coronavirus-cases> (graph below; please click on illustrations on this blog for a full-size view to load)



If this exponential rate continues, in 30 days there will be $1100 \times 2^{(30/2)} = 36,000,000$ cases (half the population). If the W.H.O. mortality rate figure of 3.4% applies, that is $0.034 \times 36,000,000 = 1,200,000$ dead, which will be hard to "cover-up" by simply preventing people from being tested for coronavirus. Flu in the UK killed 1,692 in 2018/19 according to Public Health England (see <https://fullfact.org/health/coronavirus-compare-influenza/>), so there is a difference: the mortality risk is about 17-34 times higher than flu, and it is far more infectious than flu (no flu strain in the UK has ever doubled the cases in just 2 days!), and China only **stopped its epidemic** by draconian measures to stop people from coming near one another. Clearly the exponential curve will have to flatten out (due to increasing doubling time) at some point eventually, but we could do that sooner rather than later - and without economic disruption - by simply issuing effective masks:



UK policy is to allow the virus to spread in the hope of causing "herd immunity" without waiting for a vaccine, and to stop testing most infected people due to only 2,000 lab tests being available daily. I saw people wearing surgical masks at the supermarket today (canned food shelves were empty, not just hand wash as a week ago). As in WWII when everyone was issued a protective mask against gas, we would be able to continue doing almost everything as normal without self-isolation (thus no massive economic world recession effect on people avoiding public transport, airports, aircraft, schools, colleges, etc.), if everyone doing so had such simple cheap masks when near other people who could transmit infections. This was not regarded as a waste of money then, even though Hitler never dropped his 12,000 tons of nerve gas tabun on the UK thanks to UK gas precautions, and at least **one** mainstream media commentator (Richard Madeley) realised this:



The recent use of nerve gas Novichok in the UK by Russia and the use of gas in other recent wars such as in Syria has led to **some new interest** in civil defence as an alternative to shutting down the economy if such a pandemic virus or a gas threatens people. When dad was a Civil Defence Corps Instructor in the 1950s, Britain was building up enough brand new (post-war, NOT WW2) C7 gas masks for the entire population, which were abandoned after the Corps was closed in 1968 (leaving the UK population vulnerable to a whole range of civil emergencies and disasters, not "just war")! It's about time that tried and tested solutions are used to deal with disasters to SAVE LIVES efficiently.

Instead, the media will oppose/ignore/ridicule/dismiss this, misled to the kind of abusive stupid "experts" who don't like tried and tested solutions. (Extremists on both the right and left wing politically, who hate straightforward solutions that WORK, and simply pretend such solutions don't really exist, using a long list of fake news "no-go theorems" against them.) They will lie that it is too expensive or not applicable to school kids who spread disease to older folk (**not true in WWII, see photos of kids in WWII gas masks playing above**), etc., etc. They won't be challenged effectively by any of the fake news spreaders and trolls who are employed by most of the UK TV media, whose sole purpose in "reporting news" is to make a hate attack on Prime Minister Johnson or President Trump, and **not to give airtime to WORKABLE solutions that can enable the world to avoid both (a) economic shutdown/recession and (b) massive casualties.**

Frequently asked questions on gas masks against viruses

1. Hands spread infection so washing hands will prevent covid-19 /coronavirus, won't it?

ANSWER: no it doesn't work because infection takes place through the FACE (eyes, nose, mouth). If you are on a London tube train you have to touch handles to remain standing when the train starts/stops. People are coughing. There is no sunlight UV "open air factor" to render ineffective the viruses on exhaled water droplets. There are NO WASHBASINS on tube trains and even where there are washbasins, in many cases you wash your hands clean and then re-infect yourself immediately afterwards in opening the door handle to go out of the toilet!

So the amount of time that "washing your hands" protects you is a few seconds only. Trivial protection! Pathetic protection! The rest of the time - most of the time - washing hands is useless because you have to touch things.

Money changes hands, or you type your credit card pin number on a contaminated number pad if not using cash - either way you risk contamination!

Even Novichok and for that matter sarin and VX nerve agents, and even old mustard gas liquid, were primarily skin contaminants but people in Novichok contaminated locations in Salisbury UK still had to wear gas masks, because the only guaranteed way to stop people reflectively touching their mouth, eyes, or nose (without even realising it!) is to be wearing a gas mask!

In fact, the data we have on the airborne transmission of flu and other aerosol spread viruses comes from simple experiments on control groups of people wearing masks and other groups not wearing them, in places like the old Common Cold Research Station. By unscrewing the gas mask filters from one group, exposed in identical conditions to others with filtered masks and without them, you determine precisely the infection risk from putting your fingers on your face accidentally (brushing your nose, lips or eye lashes), as compared to actual inhalation risk.

In any case, the government has been advising hand-washing for a long time, UK supermarket shelves were emptied of handwash long ago, but cases are now soaring regardless. This proves that simple advice to wash hands is not enough to prevent the risk.

2. We don't have enough gas masks for everyone at risk and there is not a world war to justify making any more gas masks as in 1939-45, so this whole idea is unreasonable and too expensive, isn't it?

LIE - we have stockpiles of EH20 escape hoods and a large stockpile of military gas masks in case of gas attacks, and the filters on those are absolutely fine for viruses as for nerve gas. The UK government has been repeatedly saying that the people MOST AT RISK are a SMALL PERCENTAGE with pre-existing conditions. Therefore, give gas masks or EH20 escape hoods to the most vulnerable groups first, while making more (the UK has its own gas mask factories such as Avon).

The remainder of this kind of "question" is a complete lie - the UK made most of the gas masks BEFORE WWII actually started, and it was the VERY existence of such civil defence that enabled the threat to be addressed.

Before that, there was a real risk of mass casualties from gas (way beyond the 60K deaths from civilian bombing that actually occurred in the UK during the war) which closed down all realistic discussions of the threat. You had to have the gas masks to negate the threat before realistic solutions were finally taken seriously. As explained in previous blog posts here, opponents of gas masks in 1936-8 were either ignorant (liars proclaiming there is "no protection" in the face of evidence to the contrary from WWI) or had a sympathy with extremist right or left wing organisations, who had a vested interest in making the UK vulnerable, to profit from this either financially or politically.

Regarding the "expense" argument, just look at the economic costs of shutting down Italy. Gas masks were manufactured cheaply and quickly in large numbers in the UK in 1938-9. It would have been MORE expensive to have Hitler drop his 12,000 tons of nerve gas tabun on London, or mustard gas, than to issue gas masks! Likewise for the coronavirus causing businesses to close for an extended period and for huge numbers of people to suffer and die! This is about human lives primarily, but the argument ALSO applies to economic considerations!

3. But surely the data will soon show that the exponential surge in UK covid-19 cases will end, so we don't need gas masks?

YES IT WILL! But NOT because anything is improving while in fact infection conditions remain the same: the data will soon show a FAKE NEWS type "fall" or at least "level out" because the UK is no longer offering tests to people with symptoms who call 111, because the UK Government has stated it it can only test a maximum of 2,000 people a day. Tests in the "Contain Phase" have now ended, and in the current "Delay Phase" people with symptoms are advised NOT to be tested but just to self-isolate for 7 days, so data will falsely level off from this. This is a bit like "sorting out" radiation problems by not taking measurements with geiger counters - a fake approach to reduce panic by controlling the data available! It is precisely this decision to end routinely testing people with symptoms that motivated this blog post.

The problem is media self-interest - either in fear mongering or ignoring the threat, or a mixture of both of these equally deplorable extremist lunacies - backing incompetent or fashionable "expert" liars who begin by ignoring the simple proved solutions, and then propose ineffective, costly schemes that don't work for political self-aggrandisement. And no, I'm not the inventor of the gas mask and I don't get paid to hype them, I only have as much self-interest in delaying this virus until a vaccine is developed to safely give immunity, as everyone else has. Of course, mass media TV and Left Wing Magazine/Paper promoted trolls will ignore this idea and will try to maximise the disaster to sell scare stories on TV or to allow the problem to

get worse by trying to stop sensible suggestions from being sensibly discussed. Hype doesn't mean they are correct.

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Photos, circulated on
social media, show
people coming up with
creative ways of covering
their noses and mouths
in a bid to avoid
contamination, as
medical experts warn
surgical face masks are
ineffective at keeping the
virus at bay.

One train passenger in
a heavy duty gas mask
was spotted on the
platform at Milton Keynes
station, while a Londoner
adopted the same
approach on the Tube.

Smuggle

Others adopted more
rudimentary protection.
A woman was seen on a
bus with a plastic storage
container over her head
while a man was spotted
wearing a shopping bag.

Dr Stephen Griffin, of
the University of Leeds,
said: "Standard face
masks provide relatively
little protection from
respiratory aerosols –
they can stop larger
droplets and some
studies have estimated
a five-fold protection
versus no barrier alone."

Two British men have
reportedly been arrested
in Morocco trying to
smuggle face masks
back to the UK.

A lorry driver was

A shoppi

4. If you are on crowded bus/train/airplane, with people coughing nearby, do you need goggles as well as a mask for protection, or an actual full face gas mask / EH20 escape hood?

Surgical masks are specifically designed to protect the patient's wounds from contamination from the surgeon when he speaks during surgery to assistants, not to protect the surgeon from the patient! They are therefore only designed to catch YOUR exhaled or coughed droplets. They don't provide an airtight seal at the edges to filter air you inhale, so they offer only partial protection against small airborne infectious droplets when people nearby cough or sneeze, which is one reason why some "experts" are against them as a ready solution.

(Other objections are political and fashion based and thus are similar to the fake news claims made by "experts" in the 1930s against gas masks, which were fortunately ignored by the government, which issued gas masks to remove gas threats regardless of the howling of "expert" objectors who thought that effective countermeasures would degrade or taint the pristine morality of humanity, by allowing people to survive using *unfashionable* facewear, or that we should morally take the highroad by simply asking the virus to sign a "peace agreement" and promise faithfully to stop infecting people.)

However the filters in gas masks and EH20 escape hoods are designed specifically to remove CBN (chemical, biological and nuclear) hazards, fine particles, droplets and gases, and they are better seals. They prevent eye infection, nose infection, inhalation and the accidental touching of the face with the hands. Some have drinking straws built in. Gas masks can be wiped clean and anti-septic and re-used, unlike paper masks that become contaminated.

Update (21 March 2020):

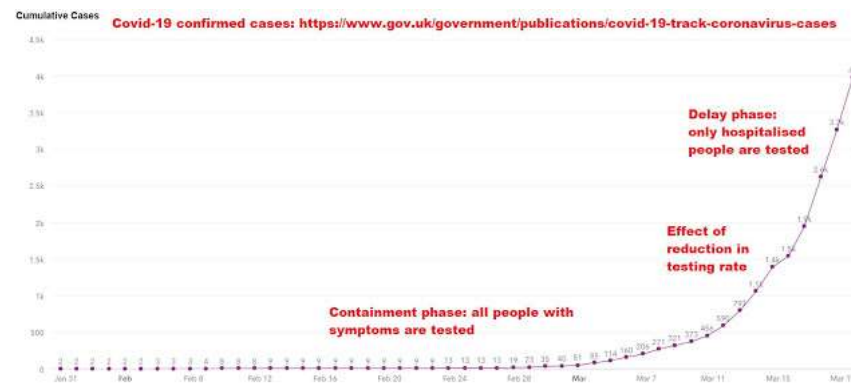
The over 80s and other susceptible groups (those with lung conditions like cystic fibrosis or lung cancer, or with weakened immune systems due to chemotherapy) should get the available masks of whatever sorts are available (medical, civilian, military, industrial, etc.) immediately to help to prevent them getting coronavirus until a vaccine is available, because there is a shortage of ventilators and they are not saving enough lives in Italy where there have been 47,021 confirmed cases with 4,032 deaths, which is 8.6%, exactly double the W.H.O. forecast of 4.3%. China successfully gave out masks as well as isolating infected areas, and the masks worked. Instead the policy is reserving masks for the medical professional to treat people, when infected, even though the Italian evidence shows this is failing, and that *PREVENTION IS BETTER THAN EFFORTS TO TREAT THE PNEUMONIA SYMPTOMS IN THE VULNERABLE*. The UK is instead reserving masks for use in the treatment stage which is LESS EFFECTIVE than PREVENTION, the opposite of what it did in 1938 when it made 40 million masks to protect people.

(The analogy to gas war would be to issue only masks to medics treating civilians who have inhaled usually fatal gas doses due to not having masks. I'm trying to "dumb down" the facts so that the media's fake news spreaders, fear mongerers, and self-aggrandising Marxists can't get away with claiming to be "confused" or "ignorant" about the point being made. That's their usual excuse for suppressing the key facts and circulating "official expert" lies instead of challenging Marxist dogma that aims to maximise disasters for political advantages and profit.)

Wouldn't it be better to keep everything open and issue people protective masks and gloves INSTEAD of a general shut down - which has **failed to halt deaths in Italy** - until a vaccine is developed? Ultimately masks and gloves will have to be issued to people working in crowded places like supermarkets, transport systems, etc, not just hospitals. Why not go the whole hog now and issue them to people at particular risk of dying from coronavirus, to minimise their risk of getting it in the first place. I think they will be the last ones to get personal protective equipment, and pseudo "experts" will instead prefer to allow them to get covid-19 pneumonia, and overload hospitals!



The UK coronavirus test ban problem in creating fake news of curve flattening, when vital data are simply NOT being collected or included anymore. Without any idea of the true numbers, the government can avoid issuing protective life saving masks to vulnerable groups. The media reports political propaganda of one sort or another, and avoids the basic facts.



Coronavirus cover up in UK data statistics. It underestimates current cases, due to now only testing people in hospital, but even this still shows a doubling in the cumulative total cases in the past 3 days, from about 2000 to about 4000 today: <https://www.gov.uk/government/publications/covid-19-track-coronavirus-cases>

Another aspect of this "fake news" propaganda from the UK Government, the TV media, and many newspapers is the inaccuracy on the actual mortality risk. Bubonic plague in the infamous pandemics of 1348, 1665, etc had a higher mortality than covid-19 in Italy ONLY if you compare *untreated* situations (*untreated* bubonic plague cases compared with *treated* covid-19 cases). If you are not issuing propaganda, and compare like-with-like, you find that bubonic plague from infected fleas carried by rats will kill 10-15% of treated cases.

So far in Italy, the 4,032 deaths in 47,021 confirmed cases is 8.6% mortality (those who have died have an average age of 80), but if we just focus on those 47,021 cases (ignoring any future cases), many of them are too recent to have resulted in mortality, so the number of deaths within the 47,021 will increase beyond the 4,032 figure, and this means (ignoring future cases) that the true total death rate in Italy is *higher* than the 8.6% figure, and is probably 10-15%.

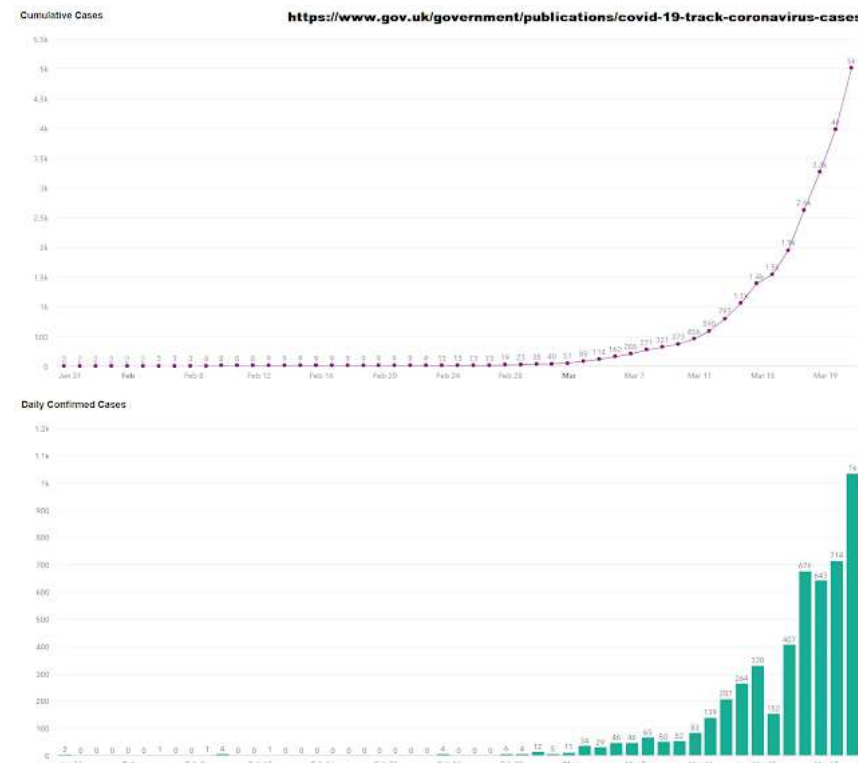
So it is likely to have a similar mortality risk to bubonic plague in an elderly population, given a like-for-like comparison basis (treated cases of covid-19 and treated cases of bubonic plague). Seasonal flu by comparison usually has a death rate of 0.1-0.2% with treatment, so covid-19 can be up to 100 times more deadly than flu and in terms of mortality risks observed in the elderly population of Italy, it is similar to bubonic plague.

Perhaps explaining this will help to ensure it is considered more as biological warfare type threat requiring that kind of response (e.g. gas masks for people

queuing up for their rations in supermarkets), than a flu strain.

Update: 22 March 2020

BBC Fake News for mass murder is debunked



Evidence that the TV media hyped washing hands countermeasure without masks has FAILED to prevent exponential surge in cases. This "government data" is partly FAKE news itself because routine data collection and testing of people with symptoms for coronavirus stopped over a week ago in the UK, when people were instructed not to even call 111 to report cases, let alone to get tested. So many cases are probably now being unreported. The media in general fails to acknowledge this fact, and reports the fake news as the truth. It also lies about gas masks that could save lives, all in the interest of expert hubris.

BBC news is hyping "expert fake news" lies that washing hands and not wearing masks is adequate, that wearing masks makes the virus spread faster, etc. Just to remind people, don't believe liars. If medical professionals believe this they wouldn't wear masks. They do wear masks, and they don't therefore believe their own lies. The sooner the BBC and other fake news outlets have the compulsory licence fee abolished and stop issuing "expert" lies, the more lives can be saved.

Protecting people, rather than institutions like the BBC, media, NHS etc, is the key problem. The NHS only has limited resources for epidemics and the safest option is to PREVENT covid-19 transmission until a vaccine is available, not the rant against masks and then rely on the NHS to cope with the massive numbers of cases. There is evidence from Italy that isolation and hospitalisation DON'T WORK and prevention is better than cure. Washing hands is not sufficient to stop a disease spread by infectious airborne droplets. I saw the NHS bullshit when my glue-ear problem went undiagnosed and untreated for over five years, causing

severe hearing and speech problems. *(My mother was a State Registered Nurse in the NHS from 1951 onwards, so please don't imagine that the Marxist infiltration of NHS medical professionals trade unions, the BMA and organisations that issue lying "peace propaganda" against civil defence preventative measures is a topic we're unaware of. As far as the Marxist dogma driven liars in the NHS have always been concerned, it must be saved in order to produce back-door Marxism in the UK by being as cost-inefficient as possible - as in my hellish childhood caused by the NHS and now in abandoning effective preventative medicine in favour of ineffective costly treatment - in order deliberately to use the inefficiency as a political lever to demand more and more money, until capitalism collapses under the debt burden when it can't repay the interest by taxation. The fact it is inefficient is what the professionals so love about it. I ended up with a ruined childhood, unable to hear properly due to distortion or speak properly due to frequency distorted hearing, despite numerous God-type patronising and fake news type "expert" propaganda lectures from "NHS professionals" that were lies.)* "Save our NHS" government slogans therefore should be replaced by "save people's lives". Less propaganda, less lies, and more facts are needed.

In fact what they are doing is the OPPOSITE of what they claim to do. They spread fake news to cause panic by suppressing evidence of EFFECTIVE countermeasures, and then claim that anyone pointing out their lies must be censored out because it disagrees with big shot liars. This is getting very dirty, hubris and dictatorship versus the truth, and people are needlessly dying as a result. If you look at China, you see that the masks have helped to stop the spread of the disease very quickly when people have to get food from shops, etc. You need them to reduce the spread of the transmission, to save lives.

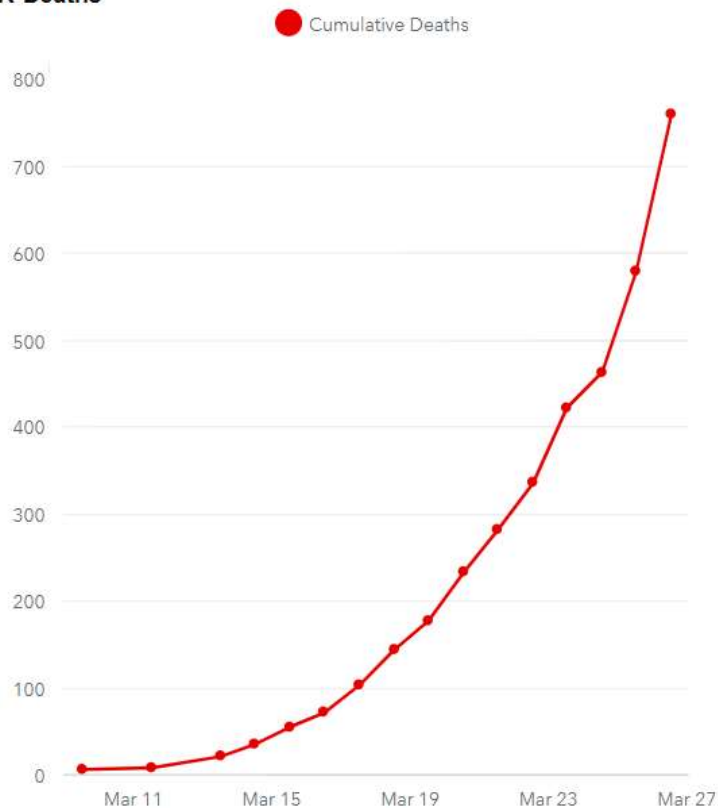
The problem with James Delingpole's criticism of officialdom on coronavirus / covid-19

James Delingpole has been chasing the wrong horse as usual, in this case the 2005 Virology Journal paper 'Chloroquine is a potent inhibitor of SARS coronavirus infection and spread,' based on chloroquine to enable people to absorb more zinc, which allegedly prevents viral RNA transcription of coronavirus:

"Why isn't the solution being shouted from the rooftops? One possibility, as I suggested yesterday, is that there is no money in it for Big Pharma. Chloroquine is a generic drug. That's why Big Pharma's lobbyists have worked hard to persuade governments that there can be no acceptable solution till a patented vaccine is brought on to the market. Even if this happens it won't be till long after the pandemic is over – probably not till at least next year." - <https://www.breitbart.com/politics/2020/03/19/chloroquine-known-as-effective-against-coronavirus-since-2005/>

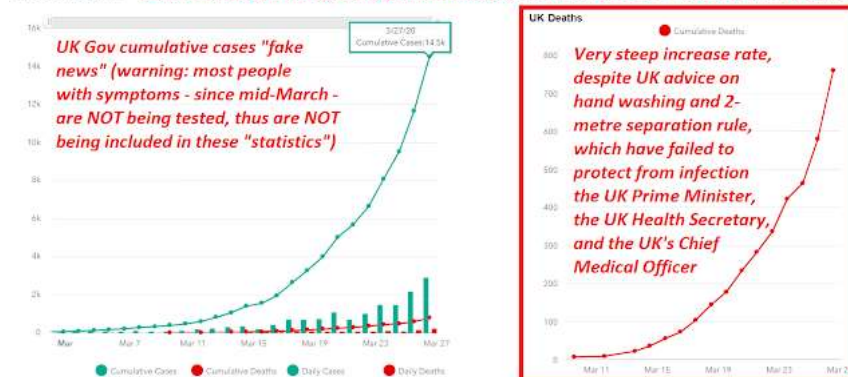
In fact, coronavirus covid-19 isn't the same as SARS coronavirus and there is no proof it will work against variants. Viruses often evolve to get over problems like this. In any case, tens of millions of people taking a new drug will always result in unintended side-effects in the doses needed to be effective as a zinc uptake facilitator. Chloroquine is currently only licensed as an anti-malarial drug, and it can cause stomach upsets, hair loss and a list of other side-effects. The only guaranteed way to halt the pandemic is masks to filter out the droplets containing viruses when people go to supermarket queues, etc.

Update: 28 March 2020

UK Deaths

Source: <https://www.gov.uk/government/publications/covid-19-track-coronavirus-cases>

UK Cases and Deaths Source: <https://www.gov.uk/government/publications/covid-19-track-coronavirus-cases>



Source: <https://www.gov.uk/government/publications/covid-19-track-coronavirus-cases>

Sad to see that the media is ignoring the fact that the very steep cumulative mortality curve in UK for covid-19 coronavirus and the infection of the **UK Prime Minister, UK Health Secretary and UK Chief Medical Advisor** should indicate: (1) hand washing advice (which most people do anyway) for airborne fine droplets has PROVABLY FAILED, (2) the 2-metres separation rule is not sufficient protection, **because biological transmission experiments have shown that many airborne viruses (eg Venezuelan equine encephalitis, bovine brucellosis, tularemia, and Q fever) can survive for up to 2 hours in sunlight or 8-18 hours in cloudy/night/indoor conditions (source: US Army Field Manual FM3-10, Chemical and Biological Weapons, 1962, page 82).** Infected people coughing/talking will leave behind small airborne 5 micron (invisible sized) contaminated droplets in the air which, like very fine dust can provably take hours to fall to the ground. (This is not opinion, it is physics.) This is probably why gas masks or at least some kind of full face protection is safer than relying on the 2-metre separation advice, which has failed for the very "top" people who promoted it on TV.

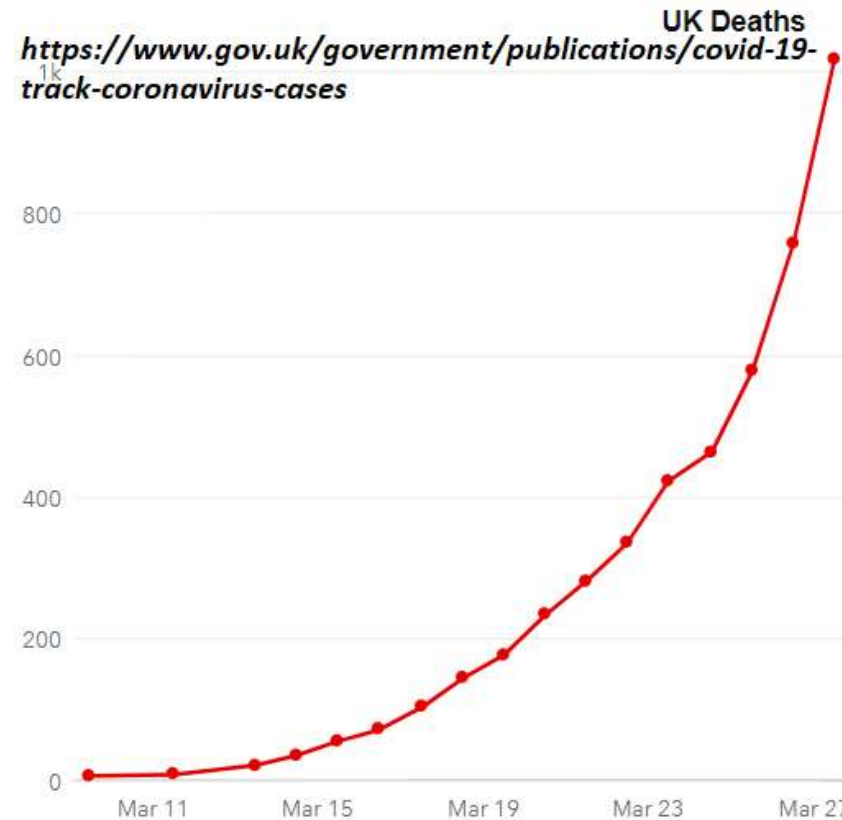
There was a time, back in the 1950s when Britain was stockpiling 50 million anti-virus civil defence C7 full face masks for the entire UK population, when the scientific evidence was based on actual experiments and proof testing, not the opinions of ill-informed ranting "official experts" who have not even bothered to check whether their advice works. Politicians of course have the motto: "When in a hole, keep digging."

As the physicist who discovered the path integral formulation of quantum mechanics, Feynman, stated in his report when he found that public relations cover-up over the space shuttle's rubber O-ring seals (which froze solid and brittle in freezing launch weather, causing the explosion of the shuttle in 1986):

"For a successful technology, reality must take precedence over public relations, for Nature cannot be fooled."

Nobody in PR listens to this, instead continually deferring to "experts" who put inflammable cladding on buildings, and now issue fake news to stop people wearing protective masks, to throw abuse at those who prove them wrong instead of apologising and correcting their advice, etc. The media is so politically bigoted that it buys into this "expert opinion" or "consensus science", just to create disasters to sell "news stories" that are unnecessary.

Second update of 28 March 2020:



The UK government has just released the latest data which shows that UK covid-19 deaths have doubled in past 3 days, from 463 on 25 March to 1000 announced this afternoon 28 March. If this 3-day doubling continued for 30 days (10 doubling times) from now you'd have $1000 \times (2^{10}) = 1$ million killed. This will happen if infection conditions remain the same as they were when the recent death cases resulted, because the only way you get out of the exponential (or geometric) curve is if the infection conditions change, and with people having to regularly go to get food, this is not necessarily going to change much.

All the "sophisticated models" which predict a rapid flattening of the curve have loads of assumptions using guesswork, a bit like NASA's massive calculation book resulting in a 1/100,000 risk prediction of failure for the space shuttle (Feynman later estimated it was closer to a 1/2 risk for launching on a cold morning as in the 1986 disaster, when the booster O-rings would be brittle and leak fuel, a factor simply ignored in the sophisticated computer models).

This reminds me too of the global warming scare mongering scandal, where all 21 IPCC computer models in 2007 assumed solely positive feedback from water in the atmosphere, despite the fact that this is debunked by the fact we don't have a runaway greenhouse effect like Venus! (They still haven't corrected this error properly.) Today's Daily Telegraph (28 March 2020 p13, *below*) article on bad UK government "expert" scientific modelling misses the point entirely because gas masks for everyone as in WW2 would avoid relying on the shortage of hospital ventilators and the ineffective lock-down until a vaccine is developed.



Daily Mail 28 March 2020 pages 1 and 2 on the infection of the UK Prime Minister UK Health Secretary and UK Chief Medical Adviser proving that their flawed advice is a failure.

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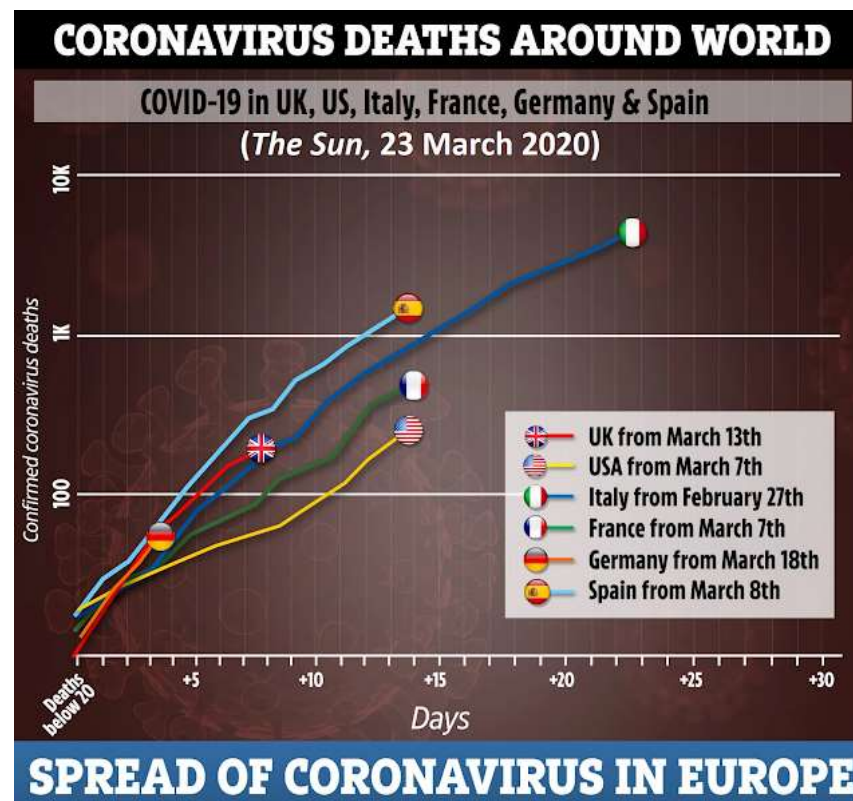
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Daily Mail, Saturday, March 26, 2005

14/50



Daily Express 28 March 2020 page 15 Carole Malone exposes the eugenics like corruption of former UK Chief Scientific Adviser who wants to deny treatment to the most vulnerable people, a political policy so extreme, inhumane, immoral and unethical that it was not even used by Stalin.



Covid 19 deaths data 23 March 2020: exposing the fact that the UK covid-19 death rate acceleration is relatively bad, due in no small part to UK

government, BBC, and NHS tireless fake news propaganda telling people not to bother to wear face masks when exposed to concentrated airborne contaminants in supermarket queues, on crowded public transport, in hospitals etc, unlike several other far more humane, honest and rational countries which tell the truth to reduce the spread of disease.

Update: 29 March 2020

Just a bit more about my background that is relevant to this blog post (from a facebook comment to Carl Brannen), since this expands on some of the key technical arguments that underpin respirators:

I've always washed my hands regularly and kept away from other people as far as possible, due to having recurrent nasal and chest infections after having my tonsils and adenoids removed, but this hasn't stopped me from regularly getting flu, colds, etc. I went into this years ago, and viruses attached to small (5 micron diameter, say) droplets in exhaled air can hang around long after the person exhaling them has gone, especially indoors (hospitals, supermarket queue areas, nursing homes, houses, corridors, lifts, doctor's waiting rooms, etc) where there is no strong UV light to deactivate them. Viruses aren't living, so they can't be killed, so only a physical or chemical process, such as removing their outer coating of grease, will deactivate them. In the air, the droplets are too small to fall quickly to the floor, so they can remain airborne for hours until they stick to surfaces, contaminating them. Without effective CBN gas mask filters (paper masks are of little use for such tiny droplets), the only protection from staying 2 metres apart from other people is dilution. As for cigarette smoke that smokers exhale, in a strong breeze you get rapid dilution, but in still air or indoors you can get a build up of airborne contamination. Biological warfare studies on this sort of virus dispersion in the open air showed that in cloudy or nighttime conditions it can take 8-18 hours for viruses in the air to become inactive. In the sun, 2 hours. This seems to me to discredit claims that staying 2 metres apart provides enough protection. I'd like to see if they have any hard evidence for that. I know the UK Common Cold Research Centre long ago proved that a person sneezing can infect another person over 10 metres away, for the less infectious cold virus. Covid-19 seems more infectious!

S NHS staff infecting patients with x +

thesun.co.uk/news/11267616/nhs-staff-patients-coronavirus/

Apps

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CORONAVIRUS STAY AT HOME SAVE LIVES

Find

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o leave
ome are:

To shop for basic necessities or pick up medicine

To travel to work when you absolutely cannot work from home

To exercise once a day, alone or with members of your household

Do not meet others, even friends or family

INVISIBLE THREAT NHS staff infecting patients with coronavirus as they show no symptoms and aren't being tested, admits health official

Alahna Kindred

27 Mar 2020, 10:03 | Updated: 27 Mar 2020, 10:34

CORONAVIRUS
STAY HOME
PROTECT
THE NHS
SAVE LIVES



Brits Born Between 1960 And 1980 Life Insurance Are In For A Shock

Life Cover Scout

"NHS Staff infecting patients with coronavirus as they show no symptoms and aren't being tested, admits health official" - Evidence that NHS staff are actually driving the pandemic by spreading infection and not using effective protective masks, since they seem to assume that all untested people are uninfected (The Sun, 27 March 2020). The WHO, the NHS and others are simply ignoring gas mask travel on crowded public transport (the London Labour Mayor has cut tube train services to ensure that essential workers are crowded together, which spreads viruses by increasing the risk of cross-infection etc., and are pointing out that ineffective paper masks are ineffective! Duh. This is lethal fake news propaganda, that costs lives. It is akin to the "Nukemap" and other forms of mass deception, that are used by journalists who refuse to take effective live saving straightforward countermeasures seriously and make hate attacks on anyone debunking their ill-informed abuse.

UPDATE: 31 March 2020

On the day of the largest rise in UK deaths from covid-19, 400 in the past 24 hours, there are two positive news stories about the fight against lying propaganda on masks from the hubris covid-19 money exploiting anti-civil defence W.H.O., the fear-mongering pandemic exploiting The Guardian newspaper, BBC, NHS, UK Government / "healthcare experts" and general Marxist anti-civil defence propaganda folk like Corbyn's "opposition" in Parliament:

(1) **Austria makes masks compulsory as protection debate shifts - Financial Times.**

(2) **CDC considering recommending general public wear face coverings in public - Washington Post.**

"Officials at the [Centers for Disease Control and Prevention](#) are considering altering the official guidance to encourage people to take measures to cover their faces amid the coronavirus pandemic, according to a federal official who spoke on the condition of anonymity because it is an ongoing matter of internal discussion and nothing has been finalized." - **Washington Post, 31 March 2020.**

They should recommend full gas masks if possible, for the vulnerable who have to visit hospitals for heart conditions etc. Please, please, please distribute military stockpiles and escape hoods for chemical, biological and radiological warfare. They WILL save lives until a vaccine is developed. Washing hands and 2 metre distancing is NOT enough! Lying COSTS LIVES.



Avon Protection NH15 Gas Mask and Respiratory System CBRN Escape Hood. Even cheaper masks have a massive effect in reducing deaths from covid-19 as the inset graphics at the bottom of this picture illustrate - countries where masks are routinely worn like Japan have a relatively small death rate from the virus. Please see [Sui Huang's report, COVID-19: WHY WE SHOULD ALL WEAR MASKS — THERE IS NEW SCIENTIFIC RATIONALE](#), and the [graphs at the report Universal mask-wearing is the most overlooked COVID-19 lifesaver](#).

The UK *Financial Times* reports: "Austria is to join a small but growing number of European countries making the wearing of face masks outside the home compulsory amid shifting debate over the medical gear's protective utility."

"Authorities would start distributing millions of free face masks at the entrances to all supermarkets from midweek onwards, chancellor Sebastian Kurz announced on Monday. Shoppers will only be permitted inside supermarkets and other open stores, such as pharmacies, if they are wearing masks."

"While masks are a familiar sight throughout Asia, the only other countries in Europe to require the wearing of masks in public space are Slovakia, the Czech Republic and Bosnia-Herzegovina. ... The WHO and many governments say healthy people do not need to wear a mask unless they are taking care of a person with suspected Covid-19 infection. ... French trade unions representing shop assistants, factory workers and police officers have demanded safety equipment for all staff or else they would exercise their right to refuse to work in dangerous conditions."

"In Italy, where the outbreak has been the deadliest in the world, the wearing has within a month gone from attracting disapproving looks to being socially obligatory."

This news and the evidence for gas masks, however, is STILL being deliberately suppressed by the W.H.O., BBC, etc., while people die needlessly and gas masks remain un-used in stockpiles at military quartermasters stores. The BBC today is also reporting more fake news on the number of "confirmed covid-19 cases" in the UK showing "green shoots", when that is *just due to the limit on the small number of tests being done daily*. In plain unvarnished language, the truth is this: if you only do 5000 tests a day, then you are going to find the number of "confirmed cases" limited by that testing rate. You can never discover 5001 confirmed cases a day if you only do 5000 per day. Official lying in the UK for BBC fake news, and the unquestioning acceptance of falsehoods on masks to ensure all funding goes into Marxist state organisations instead of actually protecting the vulnerable from needing to go into covid-

19 infected hospitals, is a national tragedy.

Update: 2 April 2020

The Mirror reports:

"The coronavirus lockdown is 'nowhere near' its end with cases expected to rise for weeks, a senior health official has warned. ... The number of deaths soared by 563 in one day yesterday - to a total of 2,352 as of 4pm on March 31."

The Sun reports:

"... NHS staff may be forced to stop using life-saving treatment, such as ventilators, on dying patients if others with the virus are more likely to survive. ... Staff at the NHS Nightingale Hospital in London have been told to brace themselves for death ahead of the opening of the new field hospital. Volunteers at the 4,000-bed field hospital set up in the ExCel Centre in the east of the capital have reportedly been warned up to 80 per cent of coronavirus patients who are on ventilators will probably die."

This estimate, that "up to 80% of coronavirus patients who are on ventilators will probably die" (based on Italian experience), should be a warning to rely on PROTECTION FOR PREVENTION e.g. gas masks, instead of putting all the eggs into one basket and merely relying on buying ventilators for treatment. Protection should always be the number 1 priority. It is proved to work!

From a Facebook discussion with Carl Brannen on whether lengthy clinical trials are needed before gas masks are used to save the lives of the most vulnerable people:

Masks were proof tested successfully against the common cold virus back in the 1960s by the UK Common Cold Research Station in Wales (since closed down). It's curious that some experts claim that superstring theory can be accepted as valid science without objective tests and experimental back up, while demanding evidence that filters work as filters. Put it like this, the UK government and BBC currently claims that standing 2 metres apart will stop infections. Where is the real scientific double blind experiment to verify that claim which is currently in use? It's pretty obvious that if someone is exhaling virus contaminated droplets for a period of time in an enclosed space like a bus, tube train, lift/elevator, ambulance, hospital corridor, etc., you will get airborne contamination building up just as if they were a smoker and the exhaled smoke was building up. This requires protection.

The current W.H.O. recommendation for front line medical workers of a paper nose/mouth mask and an open sided face shield will NOT prevent small airborne droplets getting into the eyes through the gaps around the perspex face shield (which is designed to stop blood squirting into the eyes during surgery, not to prevent small airborne droplets). Where is the proof that the existing protective W.H.O. advice is any use for medical workers? It is just as void as the W.H.O. claim that civil defence gas masks should not be used by the vulnerable. A gas mask would provide full eye protection as well as mouth and nose protection. This doesn't need any clinical trials, for the following reason. If someone tells me that hitting my thumb hard with a hammer will hurt, I don't need to "do the experiment" to decide whether this is true. Theoretical calculations will indicate what the likely result is with sufficient accuracy for my purpose. Gas masks have been tested successfully since 1915 and they will provide protection now if used. There is no need for yet more trials to delay life-saving protection.

Update: 4 April 2020

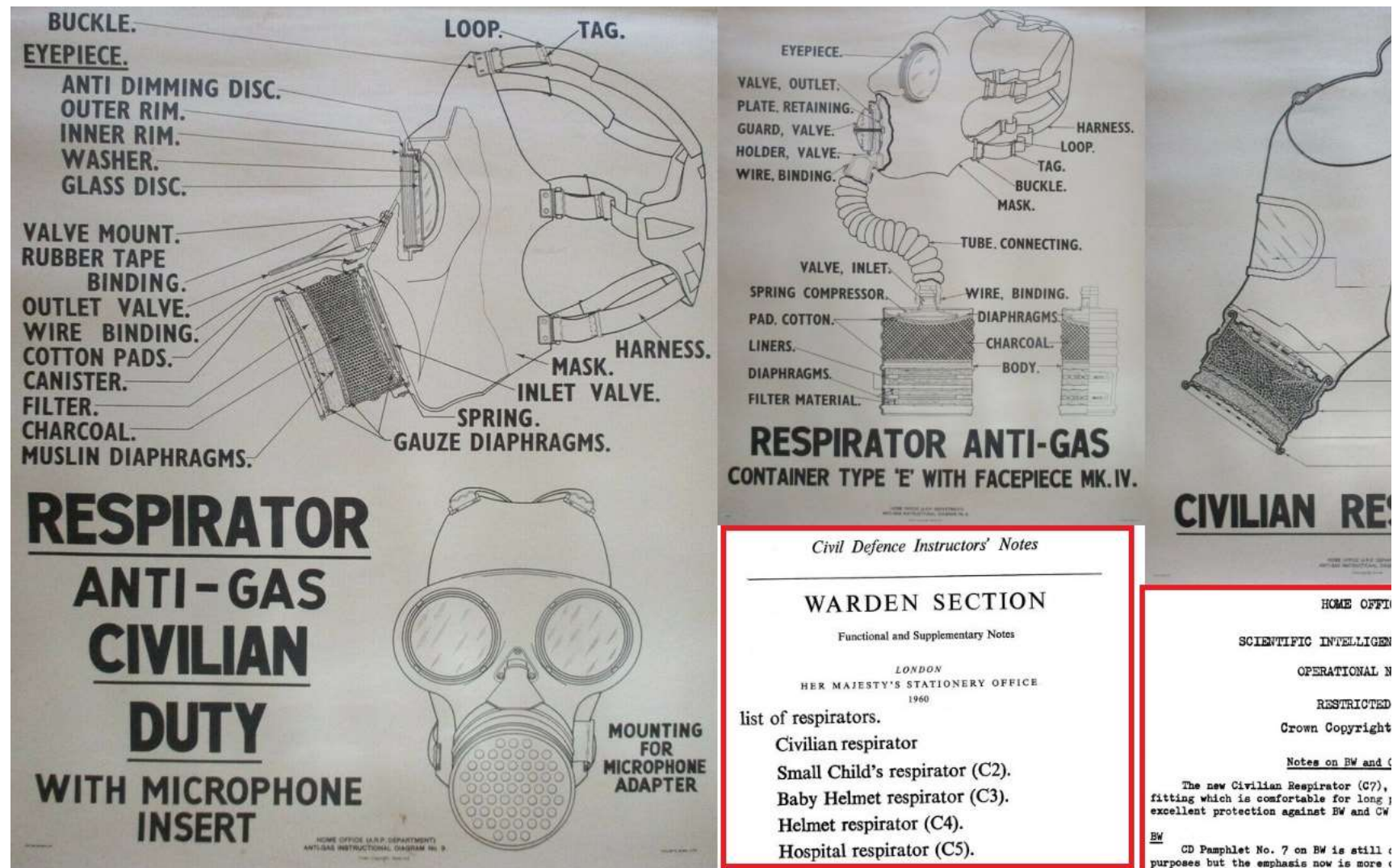
Unfortunately, the latest data indicates a 3 day doubling time in the death rate in the UK from Covid-19, i.e. 1.8k deaths on 31 March to double that, 3.6k deaths on 3 April, and the BBC is now reporting that masks are recommended in Los Angeles and New York, but NOT in London, yet is still trying to hypocritically "ridicule" President Trump's decision not to wear a mask when alone in the Oval Office, based on BBC/WHO advice NOT to wear masks, while still stating that people in the UK should not wear any protection! Get your facts straight, BBC! At what point does the police arrest the BBC fake news "journalists" for causing deaths by spreading deceptive propaganda?

UK Cases and Deaths

Source: <https://www.gov.uk/government/publications/covid-19-track-coronavirus-cases>




Update (6 April 2020):



There were a wide range of gas masks issued to civilians prior to WWII (illustrations of some WWII gas mask civil defence posters are shown above), which were all updated and improved with an added blue/green coloured context filter unit to increase their effectiveness against smaller particles, which were taped on by civil defence workers during gas mask inspections during the war. Filters could be replaced/updated if necessary.

As the 1960 UK *Civil Instructors Notes: Warden Section* shows, an updated general civilian gas mask, the C7 (developed at Porton biological warfare centre in 1951) was stockpiled together with special masks for those with breathing difficulties, for small babies, kids, and also for unconscious hospital patients, ready for distribution by the UK Civil Defence Corps long after WWII and well into the 1960s (Marxist-controlled PM Harold Wilson finally abolished the CD Corps in 1968 under military anti-civil defence lying propaganda from the USSR's union/political/media fronts in the UK, which wanted to make the UK more vulnerable so that only disarmament would seem to be "only option" for protection against dictatorships), and the *Restricted 1965 UK government Scientific intelligence officers' operational notes, section ON 23:1 (Notes on Biological and Chemical Warfare)* states:

"The new Civilian Respirator (C7), with pneumatic tube face fitting which is comfortable for long periods of wearing, affords excellent protection against Biological Warfare and Chemical Warfare attacks." (A key concern in the cold war was aircraft-sprayed airborne viruses.)

posted by Nuclear Weapons Effects 11:40 pm 

7 COMMENTS:

At 7:14 pm,  Anonymous said...

Great to have you back!

At 11:58 am,  Michael Jones said...

How can people tell if a gas mask filter needs changing and if it fits properly to prevent air leaking in at the sides?

At 12:29 pm,  nige said...

If you cover the air intake hole on the outside of the filter/absorber with paper or plastic, you will not be able to inhale if the straps are correctly adjusted to prevent leakage at the edges.

If you want to test filtering of fine particulates, simply use smoke from burning a very small amount of plastic or damp leaves with a match, or if it is easier, use a cigarette, or a small amount of chlorine gas generated from household bleach (used to clean toilets). If the mask has an operational CBNR (chemical, biological, nuclear, radiological) filter/absorber cartridge, then the smoke or chlorine gas will be absorbed by the "filter" (usually a particle absorber filter plus activated charcoal granules to absorb reactive chemicals), so it is easy to do a basic test that it is still working.

These CBNR "filters" have a MUCH longer operational life than hospital surgical paper masks, which only last a few hours. Gas masks were used for months before requiring new filter canisters in WWI, e.g. the Small Box Respirator, when they had to be used daily for weeks after persistent (slowly evaporating) mustard gas attacks in 1917. Typically they are rated to be used for 200 hours in typical conditions, so for civilian usage of 1 hour a day that means 200 days before a filter change.

This is why the UK civil defence corps from 1951-68 stockpiled post-war new C7 chemical, biological and nuclear gas masks for the entire population of the UK, a development of the original WWII civilian gas masks with improvements to allow even better protection against nerve gas and particles of radiological and biological agents.

This vital safeguard against pandemics, war and terrorism was ended in 1968 due to endless Marxist propaganda in favour of "saving" £100 million a year on civil defence to move to a political policy of "peace", in which the money would be spend on health services (treatment, not prevention of casualties).

This has led to step back to the situation in 1927 when BBC Radio broadcast an infamous lying propaganda speech on "disarmament" by Lord Philip Noel-Baker which falsely claimed that gas masks provide no protection against gas and so the only safeguard is disarmament.

The W.H.O. endlessly published similar lies about nuclear duck and cover in the cold war. The aim of such Marxist mentality infiltrated organisations as the BBC and W.H.O. is hubris: they want to allow a disaster by preventing either protection or deterrence (against terrorism), to ensure they get more propaganda power, more financial power, etc.

Pointing this out falls on deaf ears, because many people are deluded by such propaganda into preferring ineffective treatments (ventilators etc) over effective protective measures, which are easy to "ridicule" using "straw man arguments".

We have already seen Marxist "globalization" propaganda allow many thousands to die in agony, with Trump's decision to halt transatlantic air travel to reduce infection on aircraft and at airports being decried by the media.

These fake news people are hate filled, ignorance and myth promoting trolls who should be somehow held to account for the many needless painful deaths which their selfish lies have caused.

At 9:10 am,  Mike Jones said...

Nigel, I think that most governments led by narrow minded experts who receive brown paper packets from hospital contractors and drugs companies will wait until it is too late and then shut the stable door after the horse has bolted. Masks would save most people. They will not be issued. Governments and their supposed critics are united in hating solutions that would avert a disaster. They have far more money and power to gain from tragedy than from success.

At 11:19 am,  nige said...

The "experts" are all paid to conform without getting into allegations of corruption by back handed payments for "advice" which leads to the awarding of lucrative contracts for ventilators (which are less effective in saving lives than gas masks to keep people safe) to particular firms.

For example, aside from the official anti-gas mask, anti-respirator farce, there is also the issue of the "predictive models" of the virus and the related advice on closing aircraft/airport infection hubs.

We could have avoided infection from China by either closing air travel or making gas masks for air passengers compulsory (their choice: travel in a gas mask to avoid infection, or don't travel) back in January. The "experts" didn't recommend this. Even in March when Trump closed flights from the USA to infected countries to reduce infection of passengers on aircraft and at airports, big industry complained. Airlines complained, their unions complained. Yet if the "pristine" mathematical models of the UK gov were so wonderfully predictive, why didn't they make the case to close contamination routes even earlier, while it was still feasible to isolate infected individuals?

The rationale behind "closing the stable door after the horse has bolted" is that if you close the door before the horse bolts, the extreme right wing capitalists as well as the Marxist loony left who control the news media always scream:

"LOOK! There is NO PANDEMIC HERE! We didn't NEED to shut the airports or end globalization! It was a crime against humanity to shut down the spread of the virus, and the fact that the virus has not spread here proves that we didn't need such extreme countermeasures!"

This is a fake news argument, but it works time and again. Unless a disaster occurs to the fullest extent, the government and its "expert" advisers finds their hands tied in respect of protective measures.

It was the same in the 1930s with appeasement. People warned against it but Professor Cyril Joad and other nasty liars could not be disproved until a world war broke out, when it was too late.

We can expect that the "next" pandemic, after covid-19, will be met with more rapid airport closures and even with the media forced into taking protective masks seriously again as in 1938 when the Munich agreement took the country to the brink of war and wiped away some of the complacent propaganda and fascist fake news on there being: "no protection against poison gas, so we must either accept Nazism peacefully, or be gassed."

However, the media won't accept the need to do something to avert the impending disaster now, because they want to be forced into changing their tune by a full scale disaster, not by facts about protective measures that can prevent a disaster.

The Titanic had to sink before ships were legally forced to carry enough lifeboats. Grenfell Tower has to burn down and kill people before regulations on fireproof cladding were ironed out. A Space shuttle had to explode killing all aboard before the decision not to launch in freezing conditions that made rubber sealant rings brittle was taken. These are all example of situations where some people tried to quietly get regulations changed to PREVENT disaster, but failed because no big shots, least of all the supposedly wonderful "investigative journalists", gave a damn until it was in their financial interests to do so.

There is only a "story" that will sell after the disaster, not if a disaster is prevented. For years the CND used to lie that gas masks were useless in WWII because they meant that Hitler couldn't drop his 12,000 tons of tabun nerve gas on London. Mad big shot journalists and authors still sell this myth: by analogy safety valves that prevent explosions are useless because no explosions actually occur! Bonkers, but by only printing lies about civil defence, they get a kind of "brainwashing effect" like UFO cults.

At 7:24 pm,  Anonymous said...

Russian oil revenue falling drastically. The Saudis have flooded the oil market. The price of crude is hitting a record low. Russian economy will be hit hard, like the Germany economy after the 1929 crash. This caused the economic and political chaos which led to WWII.

At 10:10 am,  nige said...

I think we should ignore the long-term problems until we have dealt with the immediate crisis.

[In any case, the proposed gas mask civil defence solution for getting out of the lock-down (if an effective vaccine isn't available soon), will also have uses in the event of the use of future regional conflicts or escalating wars sparked off by a possible global recession.]

The key now, though, is sorting out the "expert" created lunacy. There is an interesting criticism of the inflexible NHS UK covid-19 strategy in the UK Daily Telegraph by Moore:

<https://www.telegraph.co.uk/news/2020/04/03/inflexibility-lumbering-nhs-country-has-had-shut/>

The inflexibility of our lumbering NHS is why the country has had to shut down

CHARLES MOORE

Daily Telegraph UK newspaper (online edition) 3 APRIL 2020 • 9:30PM

Why are we clapping the NHS? It is right and just to clap NHS workers, but that is not the same thing. Virtually everyone has reason to thank good nurses, doctors and paramedics. But if we are to praise large organisations for how effectively they have dealt with the coronavirus crisis, we should be clapping vigorously for Sainsbury's, Tesco, Waitrose and Morrisons, who have responded nimbly to sudden extra demand for one of life's basics – food. We should give only rather tepid applause for the efforts of the NHS to look after another of life's basics – health.

As its name suggests, the National Health Service is there to serve the health of the nation. In this crisis, the roles have reversed – it is seen as the duty of the nation to serve the NHS. "Protect the NHS. Save lives," says the slogan, in that rather surprising order: Children are made to recite it like a prayer. How are we to do this? We must help the NHS by avoiding hospitals and surgeries, we are told. The Government's policy of lockdown is in significant part dictated by the demands not of patients, but of the NHS, and by its lack of adaptability and readiness. ...

It is a shame however that Moore criticises the ineffective existing NHS ventilator propaganda effort without bothering to mention the WWII solution of gas masks to get us out of the slaughter, the lock-down and the economic damage! Even the "best" of these "journalists" are unbelievably naive and close-minded bigots.

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Credible nuclear deterrence of invasions and conventional wars reduce the risk of large conventional and nuclear wars occurring through escalation of invasions such as the invasion of Belgium in 1914 and the invasion of Poland in 1939, of surprise attacks like those against France in 1940 and of Russia and Pearl Harbor in 1941, Afghanistan in 1979, Kuwait in 1990, or Crimea in 2014. Contrary to irrational, pseudo-scientific propaganda, the number of nuclear weapons is smaller than the millions of conventional weapons used in large wars and the correct scaling shows that the overall effects are similar, not massively different as often claimed for political propaganda by enemies of peace. Furthermore, the greater time delay of effects from nuclear weapons over the damaged area increases the efficiency of cheap civil defence countermeasures, as compared to conventional weapons. We need credible effects of nuclear weapons for real world peace: peace through tested, proved and practical declassified deterrence and countermeasures against collateral damage. Credible deterrence through simple, effective protection against concentrated and dispersed invasions and aerial attacks. Discussions of the facts as opposed to inaccurate, misleading lies of the "disarm or be annihilated" political dogma variety. Hiroshima and Nagasaki anti-nuclear propaganda debunked by the hard facts. Walls not wars. Walls bring people together by stopping divisive terrorists. In conclusion, credible nuclear deterrence of conventional war offers a beautiful opportunity to create a peaceful world, free from fear peddling, ranting dictators. The only oppositions you will meet will come from authoritarian obsessed fear peddling myth makers. If they can't tell the truth and face the facts, why listen to them? Please see our post on the need to *deter not only direct threats from nuclear attacks but also conventional wars and invasions* that can *escalate* into nuclear wars (as proved by the use of nuclear weapons in WWII, for example, after they were developed during the war itself and did not trigger or provoke the war), linked [here](#), [here](#), [here](#), and [here](#), [here](#), [here](#), and the true scaling law equivalence between a few thousand nuclear weapons and the several million tons of small conventional weapons in a non-nuclear world war as proved by our post [summarising key points in Herman Kahn's much-abused call for credible deterrence, *On Thermonuclear War*, linked here](#). Peace comes through tested, proved and practical declassified countermeasures against the effects of nuclear weapons, chemical weapons and conventional weapons. Credible deterrence to end invasions and wars comes through simple, effective protection against invasions like low yield tactical weapons and walls, and civil defence against collateral damage. Peace comes through discussions of the facts as opposed to inaccurate, misleading lies of the "disarm or be annihilated" political dogma variety, which are designed to exploit fear to close down criticisms of errors in mainstream orthodoxy. In particular, please see the [post linked here on EMP results from an actual Russian 300 kt test at 290 km altitude over unwarned civilian infrastructure in Kazakhstan on 22 October 1962, which caused no injuries or deaths whatsoever \(contrary to all of Jeremy Corbyn and CND style lying propaganda that any use of nuclear weapons on civilians would automatically kill millions\), but shut down the communications and power supply lines! This is not secret, but does not make newspaper headlines to debunk CND style dogmas on the alleged incredibility of nuclear deterrence.](#)

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Hiroshima's air raid shelters were unoccupied because Japanese Army officers were having breakfast when B29s were detected far away, says Yoshie Oka, the operator of the Hiroshima air raid sirens on 6 August 1945...

-

In a sample of 1,881 burns cases in Hiroshima, only 17 (or 0.9 percent) were due to ignited clothing and 15 (or 0.7%) were due to the firestorm flames...

-

Dr Harold L. Brode's new book, Nuclear Weapons in ...

-

800 war migrants drowned on 22 April by EU policy:...

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Photographed fireball shielding by cloud cover in ...

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Nuclear weapons effects "firestorm" and "nuclear w...

-

Proved 97.5% survival in completely demolished houses ...

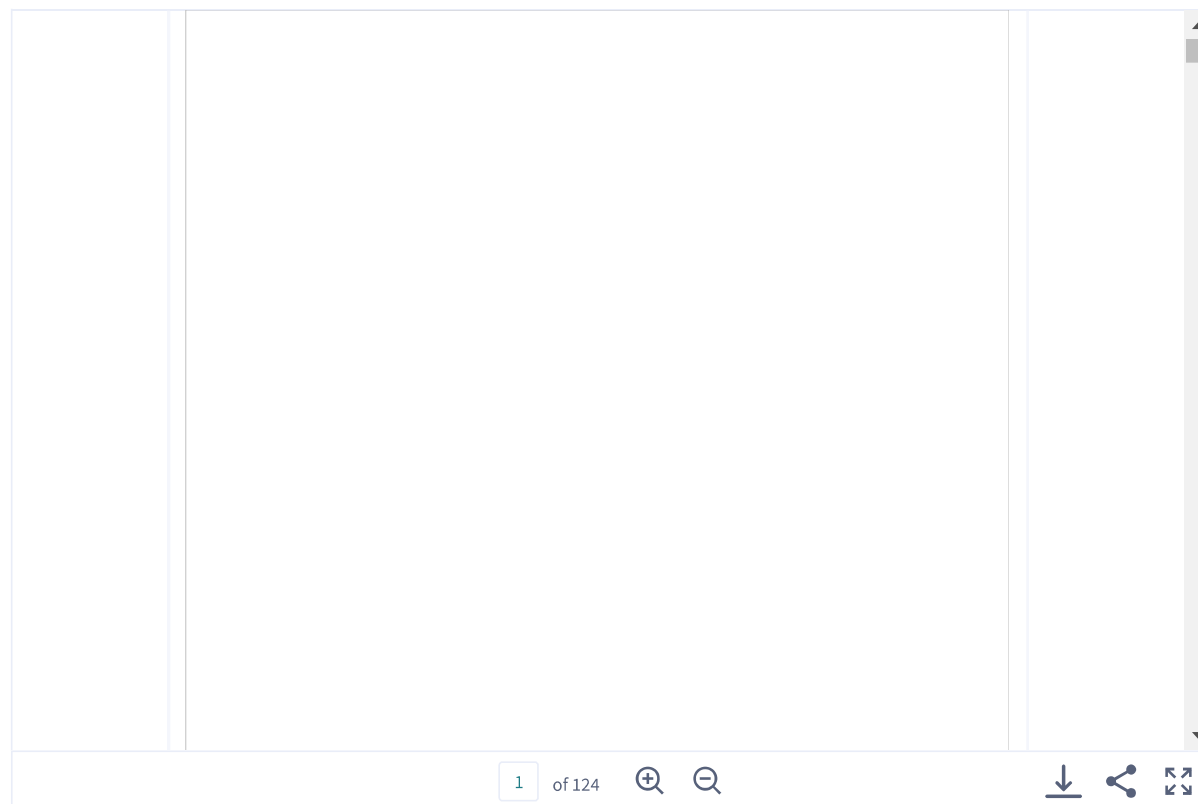
How to achieve peace through tested, proved and practical declassified countermeasures against the effects of nuclear weapons, chemical weapons and conventional weapons. Credible deterrence through simple, effective protection against invasions and collateral damage. Discussions of the facts as opposed to inaccurate, misleading lies of the "disarm or be annihilated" political dogma variety. Hiroshima and Nagasaki anti-nuclear propaganda debunked by the hard facts. Walls not wars. Walls bring people together by stopping attacks by "divide and rule" style divisive terrorists, contrary to simplistic Vatican propaganda.

"There has never been a war yet which, if the facts had been put calmly before the ordinary folk, could not have been prevented." - British Foreign Secretary Ernest Bevin, House of Commons Debate on Foreign Affairs, Hansard, 23 November 1945, column 786 (unfortunately secret Cabinet committees called "democracy" for propaganda purposes have not been quite so successful in preventing war). Protection is needed against collateral civilian damage and contamination in conventional, chemical and nuclear attack, with credible low yield clean nuclear deterrence against conventional warfare which, in reality (not science fiction) costs far more lives. Anti scientific media, who promulgate and exploit terrorism for profit, censor (1) vital, effective civil defense knowledge and (2) effective, safe, low yield air burst clean weapons like the Mk54 and W79 which deter conventional warfare and escalation, allowing arms negotiations from a position of strength. This helped end the Cold War in the 1980s. Opposing civil defense and nuclear weapons that really deter conventional war, is complacent and dangerous.

War and coercion dangers have not stemmed from those who openly attack mainstream mistakes, but from those who camouflage themselves as freedom fighters to ban such free criticism itself, by making the key facts seem taboo, without even a proper debate, let alone financing research into unfashionable alternatives. Research and education in non-mainstream alternatives is needed before an unprejudiced debate, to establish all the basic facts for a real debate. "Wisdom itself cannot flourish, nor even truth be determined, without the give and take of debate and criticism." – Robert Oppenheimer (quotation from the H-bomb TV debate hosted by Eleanor Roosevelt, 12 February 1950).

"Apologies for freedom? I can't handle this! ... Deal from strength or get crushed every time ... Freedom demands liberty everywhere. I'm thinking, you see, it's not so easy. But we have to stand up tall and answer freedom's call!" – Freedom Kids

CONVENTIONAL WARS HAVE KILLED TENS OF MILLIONS OF PEOPLE, NUCLEAR WEAPONS CAN RAPIDLY DETER THIS REAL THREAT TO PEACE WITH MINIMAL CASUALTIES. 'During the critical period 8-15 February [1968], the U.S. command realized [that conventional] bombing was not sufficiently effective. ... The air campaign dropped over 110,000 tons of bombs and napalm on the area around Khe Sanh during the 77-day siege ... the most heavily bombed target in the history of conventional warfare.' – W. C. Yengst, S. J. Lukasik, and M. A. Jensen, *Nuclear Weapons that went to War*, SAID report DSWA-TR-97-25, September 1998 (quoted in the 2015 book by the secret *Capabilities of Nuclear Weapons* editor, Dr Harold L. Brode, *Nuclear Weapons in the Cold War*, page 287). [British Nuclear Test Civil Defence Research](#)



CHANGE 1

Field Manual No 101-31-1

NUCLEAR WEAPONS EMPLOYMENT DOCTRINE AND PROCEDURES

Radius of vulnerability (emergency risk criterion: 5% combat ineffectiveness)

Figure 54. Radii of Vulnerability.

Yield (KT)	PERSONNEL (LL) IN— (Based on Governing Effect)				
	Open	Open Foxholes	APCs	Tanks	Earth Shelter
Radii listed are distances at which a 5 percent incidence of effect occurs. HOB used is $60W^{1/3}$ meters.					
(Distances are in meters)					
0.1	700	600	600	500	300
1	1200	900	900	800	500
10	3200	1300	1300	1250	900

**Protective factor = ratio of
area of effect in the open, to
area of effect for shelter**

**Example: for 300 kt, the protective
factor of open foxholes is equal to
 $(14,000)^2 / (2,100)^2 = 44$.**

Open	Open Foxholes	APCs	Tanks	Earth Shelter	Yield (KT)
1	1.36	1.36	1.96	5.44	0.1
1	1.78	1.78	2.25	5.76	1
1	4.04	4.04	4.55	12.4	10

10	3200	1300	1300	1200	300	1	0.00	0.00	0.00	12.0	10
20	4000	1500	1450	1400	1000	1	7.11	7.61	8.16	16.0	20
100	8000	1900	1800	1800	1400	1	17.7	19.8	19.8	32.7	100
200	12000	2000	1900	1900	1500	1	36.0	39.9	39.9	64.0	200
300	14000	2100	1950	1950	1600	1	44.4	51.5	51.5	76.6	300

Calculation of the injury-averting protective factors by simple open foxholes and earth shelters, as a function of weapon yield. Most countermeasures are relatively ineffective against tactical nuclear weapons (due to the predominating neutron radiation effect at 0.1 kt yield), but are extremely effective against strategic nuclear weapons with yields of 100, 200 and 300 kt (protective factors of 44 to 77).

The definition of protective factor used here is the factor by which casualties numbers are reduced.

Richard P. Feynman, 'This Unscientific Age', in *The Meaning of It All*, Penguin Books, London, 1998, pages 106-9:

'Now, I say if a man is absolutely honest and wants to protect the populace from the effects of radioactivity, which is what our scientific friends often say they are trying to do, then he should work on the biggest number, not on the smallest number, and he should try to point out that the [natural cosmic] radioactivity which is absorbed by living in the city of Denver is so much more serious [than the smaller doses from nuclear explosions] ... that all the people of Denver ought to move to lower altitudes.'

"If a man reads or hears a criticism of anything in which he has an interest, watch ... if he shows concern with any question except 'is it true?' he thereby reveals that his own attitude is unscientific. Likewise if ... he judges an idea not on its merits but with reference to the author of it; if he criticizes it as 'heresy'; if he argues that authority must be right because it is authority ... The path of truth is paved with critical doubt, and lighted by the spirit of objective enquiry... the majority of people have resented what seems in retrospect to have been purely matter of fact ... nothing has aided the persistence of falsehood, and the evils resulting from it, more than the unwillingness of good people to admit the truth ... the tendency continues to be shocked by natural comment, and to hold certain things too 'sacred' to think about. ... How rarely does one meet anyone whose first reaction to anything is to ask: 'is it true?' Yet, unless that is a man's natural reaction, it shows that truth is not uppermost in his mind, and unless it is, true progress is unlikely."

- Sir Basil Henry Liddell Hart, *Why Don't We Learn from History?*, PEN Books, 1944; revised edition, Allen and Unwin, 1972.

Civil defense countermeasures, to be taken seriously by the population, require the publication of solid facts with the scientific evidence to support those facts against political propaganda to the contrary. Secrecy over the effects of nuclear weapons tests does not hinder plutonium and missile production by rogue states, but it does hinder civil defense countermeasures, by permitting lying political propaganda to go unopposed (see linked post, here).

Terrorists successfully prey on the vulnerable. The political spreading of lies concerning threats and the alleged 'impossibility' of all countermeasures, terrorizing the population in order to 'justify' supposedly pro-peace disarmament policies in the 1920s-1930s, resulted in the secret rearmament of fascist states which were terrorizing the Jews and others, eventually leading to World War II.

Political exaggerations about nuclear weapons effects today:

(1) encourage terrorist states and other groups to secretly invest in such weapons to use either for political intimidation or for future use against countries which have no countermeasures, and

(2) falsely dismiss, in the eyes of the media and the public, cheap relatively effective countermeasures like civil defense and ABM.

Therefore, doom-mongering media lies *make us vulnerable to the proliferation threat* today in two ways, just as they led to both world wars:

(1) Exaggerations of offensive technology and a down-playing of simple countermeasures such as trenches, encouraged belligerent states to start World War I in the false belief that modern technology implied overwhelming firepower which would terminate the war quickly on the basis of offensive preparedness: if the facts about simple trench countermeasures against shelling and machine guns during the American Civil War had been properly understood, it would have been recognised by Germany that a long war based on munitions production and logistics would be necessary, and war would have been seen to be likely to lead to German defeat against countries with larger overseas allies and colonies that could supply munitions and the other resources required to win a long war.

(2) Exaggerations of aerial bombardment technology after World War I led to disarmament 'supported by' false claims that it was impossible to have any defense against a perceived threat of instant annihilation from thousands of aircraft carrying gas and incendiary bombs, encouraging fascists to secretly rearm in order to successfully take advantage of the fear and vulnerability caused by this lying political disarmament propaganda.

Contrived dismissal of civil defense by Marxist "Cambridge Scientists Anti-War Group" bigots: (a) appeased war-mongering enemies, and (b) maximised war mortality rates. Idealism kills. Super effective, fully proof-tested, cheap civil defense makes nuclear deterrence credible to stop conventional war devastation by avoiding collateral damage, tit-for-tat retaliation and escalation.

Historically, it has been proved that having weapons is not enough to guarantee a reasonable measure of safety from terrorism and rogue states; countermeasures are also needed, both to make any deterrent credible and to negate or at least mitigate the effects of a terrorist attack. Some people who wear seatbelts die in car crashes; some people who are taken to hospital in ambulances, even in peace-time, die. Sometimes, lifebelts and lifeboats cannot save lives at sea. This lack of a 100% success rate in saving lives doesn't disprove the value of everyday precautions or of hospitals and medicine. Hospitals don't lull motorists into a false sense of security, causing them to drive faster and cause more accidents. Like-minded 'arguments' against ABM and civil defense are similarly vacuous.

'As long as the threat from Iran persists, we will go forward with a missile system that is cost-effective and proven. If the Iranian threat is eliminated, we will have a stronger basis for security, and the driving force for missile-defense construction in Europe will be removed.'

- President Obama, Prague Castle, Czech Republic, 4 April 2009.

Before 9/11, Caspar Weinberger was quizzed by skeptical critics on the BBC News program *Talking Point, Friday, May 4, 2001: Caspar Weinberger quizzed on new US Star Wars ABM plans:*

'The [ABM] treaty was in 1972 ... The theory ... supporting the ABM treaty [which prohibits ABM, thus making nations vulnerable to terrorism] ... that it will prevent an arms race ... is perfect nonsense because we have had an arms race all the time we have had the ABM treaty, and we have seen the greatest increase in proliferation of nuclear weapons that we have ever had. ... So the ABM treaty preventing an arms race is total nonsense. ...

'You have to understand that without any defences whatever you are very vulnerable. It is like saying we don't like chemical warfare - we don't like gas attacks - so we are going to give up and promise not to have any defences ever against them and that of course would mean then we are perfectly safe. ...

'The Patriot was not a failure in the Gulf War - the Patriot was one of the things which defeated the Scud and in effect helped us win the Gulf War. One or two of the shots went astray but that is true of every weapon system that has ever been invented. ...

'The fact that a missile defence system wouldn't necessarily block a suitcase bomb is certainly not an argument for not proceeding with a missile defence when a missile that hits can wipe out hundreds of thousands of lives in a second. ...

'The curious thing about it is that missile defence is not an offensive weapon system - missile defence cannot kill anybody. Missile defence can help preserve and protect your people and our allies, and the idea that you are somehow endangering people by having

a defence strikes me almost as absurd as saying you endanger people by having a gas mask in a gas attack. ...

‘President Bush said that we were going ahead with the defensive system but we would make sure that nobody felt we had offensive intentions because we would accompany it by a unilateral reduction of our nuclear arsenal. It seems to me to be a rather clear statement that proceeding with the missile defence system would mean fewer arms of this kind.

‘You have had your arms race all the time that the ABM treaty was in effect and now you have an enormous accumulation and increase of nuclear weapons and that was your arms race promoted by the ABM treaty. Now if you abolish the ABM treaty you are not going to get another arms race – *you have got the arms already there* – and if you accompany the missile defence construction with the unilateral reduction of our own nuclear arsenal then it seems to me you are finally getting some kind of inducement to reduce these weapons.’

Before the ABM system is in place, and afterwards if ABM fails to be 100% effective in an attack, or is bypassed by terrorists using a bomb in a suitcase or in a ship, civil defense is required and can be effective at saving lives:

‘Paradoxically, the more damaging the effect, that is the farther out its lethality stretches, the more can be done about it, because in the last fall of its power it covers vast areas, where small mitigations will save very large numbers of people.’

- Peter Laurie, *Beneath the City Streets: A Private Inquiry into the Nuclear Preoccupations of Government*, Penguin, 1974.

‘The purpose of a book is to save people [the] time and effort of digging things out for themselves. ... we have tried to leave the reader with something tangible – what a certain number of calories, roentgens, etc., means in terms of an effect on the human being. ... we must think of the people we are writing for.’

– Dr Samuel Glasstone, DSc, letter dated 1 February 1957 to Colonel Dent L. Lay, Chief, Weapons Effects Division, U.S. Armed Forces Special Weapons Project, Washington, D.C., pages 2 and 4, concerning the preparation of *The Effects of Nuclear Weapons*.



Glasstone and Dolan stated in *The Effects of Nuclear Weapons* (1977), Table 12.17 on page 546, that the median distance in Hiroshima for survival after 20 days was 0.12 miles for people in concrete buildings and 1.3 miles for people standing outdoors. Therefore the median distances for survival in modern city buildings and in the open differed by a factor of 11 for Hiroshima; the difference in areas was thus a factor of 11^2 or about 120. Hence, taking cover in modern city buildings reduces the casualty rates and the risks of being killed by a factor of 120 for Hiroshima conditions, contrary to popular media presented political propaganda that civil defence is hopeless. This would reduce 120,000 casualties to 1,000 casualties.

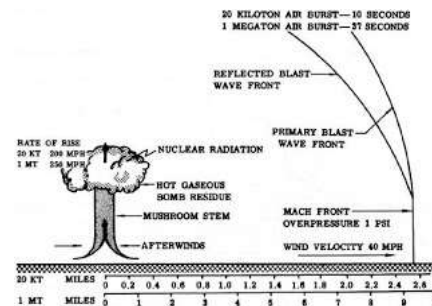
From Dr Glasstone's *Effects of Nuclear Weapons* (1962/64 ed., page 631): ‘At distances between 0.3 and 0.4 mile from ground zero in Hiroshima the average survival rate, for at least 20 days after the nuclear explosion, was less than 20 percent. Yet in two reinforced concrete office buildings, at these distances, almost 90 percent of the nearly 800 occupants survived more than 20 days, although some died later of radiation injury. Furthermore, of approximately 3,000 school students who were in the open and unshielded within a mile of ground zero at Hiroshima, about 90 percent were dead or missing after the explosion. But of nearly 5,000 students in the same zone who were shielded in one way or another, only 26 percent were fatalities. ... survival in Hiroshima was possible in buildings at such distances that the overpressure in the open was 15 to 20 pounds per square inch. ... it is evident ... that the area over which protection could be effective in saving lives is roughly eight to ten times as great as that in which the chances of survival are small.’

Lord Mayhew, House of Lords debate on Civil Defence (General Local Authority Functions) Regulations, Hansard, vol. 444, cc. 523-49, 1 November 1983: ‘... if there had been effective civil defence at Hiroshima probably thousands of lives would have been saved and much human suffering would have been avoided. There is no question about it. ...’

Since the 1977 update by Glasstone and Dolan, extensive new updates to EM-1 for a further revised edition of *The Effects of Nuclear Weapons* have not actually been published with unlimited public distribution, due to President Carter’s 1979 executive order which transferred responsibility for civil defense from the jurisdiction of the U.S. Department of Defense’s Defense Civil Preparedness Agency to the new agency (which is not an Agency of the U.S. Department of Defense, and is not concerned with the analysis of nuclear weapons test effects data), the Federal Emergency Management Agency. However, the February 1997 U.S. Department of Defense’s Defense Special Weapons Agency 0602715H RDT&E Budget Item Justification Sheet (R-2 Exhibit) states that a revision of Glasstone and Dolan’s unclassified *Effects of Nuclear Weapons* was budgeted for 1997-9:

“FY 1997 Plans: ... Provide text to update Glasstone’s book, *The Effects of Nuclear Weapons*, the standard reference for nuclear weapons effects. ... Update the unclassified textbook entitled, *The Effects of Nuclear Weapons*. ... Continue revision of Glasstone’s book, *The Effects of Nuclear Weapons*, the standard reference for nuclear weapons effects. ... FY1999 Plans ... Disseminate updated *The Effects of Nuclear Weapons*.”

The new publications are either classified or unclassified with limited distribution restrictions (e.g., Bridgman’s *Introduction to the Physics of Nuclear Weapons Effects*, which includes several chapters on nuclear weapons design to enable initial radiation outputs to be calculated precisely) which prevents up-to-date basic nuclear effects information to justify civil defense against the latest nuclear threats from being widely disseminated; the books are printed for use only by government agencies. The problem with this approach is that widespread public understanding of the best information for civil defense countermeasures is prevented.



‘The evidence from Hiroshima indicates that blast survivors, both injured and uninjured, in buildings later consumed by fire [caused by the blast overturning charcoal braziers used for breakfast in inflammable wooden houses filled with easily ignitable bamboo furnishings and paper screens] were generally able to move to safe areas following the explosion. Of 130 major buildings studied by the U.S. Strategic Bombing Survey ... 107 were ultimately burned out ... Of those suffering fire, about 20 percent were burning after the first half hour. The remainder were consumed by fire spread, some as late as 15 hours after the blast. This situation is not unlike the one our computer-based fire spread model described for Detroit.’

- Defense Civil Preparedness Agency, U.S. Department of Defense, *DCPA Attack Environment Manual, Chapter 3: What the Planner Needs to Know About Fire Ignition and Spread*, report CPG 2-1A3, June 1973, Panel 27.

The Effects of the Atomic Bomb on Hiroshima, Japan, US Strategic Bombing Survey, Pacific Theatre, report 92, volume 2 (May 1947, secret):

Volume one, page 14:

“... the city lacked buildings with fire-protective features such as automatic fire doors and automatic sprinkler systems”, and pages 26-28 state the heat flash in Hiroshima was only:

“... capable of starting primary fires in exposed, easily combustible materials such as dark cloth, thin paper, or dry rotted wood exposed to direct radiation at distances usually within 4,000 feet of the point of detonation (AZ).”

Volume two examines the firestorm and the ignition of clothing by the thermal radiation flash in Hiroshima:

Page 24:

“Scores of persons throughout all sections of the city were questioned concerning the ignition of clothing by the flash from the bomb. ... Ten school boys were located during the study who had been in school yards about 6,200 feet east and 7,000 feet west, respectively, from AZ [air zero]. These boys had flash burns on the portions of their faces which had been directly exposed to rays of the bomb. The boys’ stories were consistent to the effect that their clothing, apparently of cotton materials, ‘smoked,’ but did not burst into flame. ... a boy’s coat ... started to smoulder from heat rays at 3,800 feet from AZ.” [Contrast this to the obfuscation and vagueness in Glasstone, *The Effects of Nuclear Weapons*!]

Page 88:

“Ignition of the City. ... Only directly exposed surfaces were flash burned. Measured from GZ, flash burns on wood poles were observed at 13,000 feet, granite was roughened or spalled by heat at 1,300 feet, and vitreous tiles on roofs were blistered at 4,000 feet. ... six persons who had been in reinforced-concrete buildings within 3,200 feet of air zero stated that black cotton blackout curtains were ignited by radiant heat ... dark clothing was scorched and, in some cases, reported to have burst into flame from flash heat [although as the 1946 unclassified USSBS report admits, most immediately beat the flames out with their hands without sustaining injury, because the clothing was not drenched in gasoline, unlike peacetime gasoline tanker road accident victims]

“... but a large proportion of over 1,000 persons questioned was in agreement that a great majority of the original fires was started by debris falling on kitchen charcoal fires, by industrial process fires, or by electric short circuits. Hundreds of fires were reported to have started in the centre of the city within 10 minutes after the explosion. Of the total number of buildings investigated [135 buildings are listed] 107 caught fire, and in 69 instances, the probable cause of initial ignition of the buildings or their contents was as follows: (1) 8 by direct radiated heat from the bomb (primary fire), (2) 8 by secondary sources, and (3) 53 by fire spread from exposed [wooden] buildings.”

‘It is true that the Soviets have tested nuclear weapons of a yield higher than that which we thought necessary, but the 100-megaton bomb of which they spoke two years ago does not and will not change the balance of strategic power. The United States has chosen, deliberately, to concentrate on more mobile and more efficient weapons, with lower but entirely sufficient yield ...’ - President John F. Kennedy in his television broadcast to the American public, 26 July 1963.

‘During World War II many large cities in England, Germany, and Japan were subjected to terrific attacks by high-explosive and incendiary bombs. Yet, when proper steps had been taken for the protection of the civilian population and for the restoration of services after the bombing, there was little, if any, evidence of panic. It is the purpose of this book to state the facts concerning the atomic bomb, and to make an objective, scientific analysis of these facts. It is hoped that as a result, although it may not be feasible completely to allay fear, it will at least be possible to avoid panic.’

– Dr George Gamow (the big bang cosmologist), Dr Samuel Glasstone, DSc (Executive Editor of the book), and Professor Joseph O. Hirschfelder, *The Effects of Atomic Weapons*, Chapter 1, p. 1, Paragraph 1.3, U.S. Department of Defense, September 1950.

‘The consequences of a multiweapon nuclear attack would certainly be grave ... Nevertheless, recovery should be possible if plans exist and are carried out to restore social order and to mitigate the economic disruption.’

- Philip J. Dolan, editor of *Nuclear Weapons Employment* FM 101-31 (1963), *Capabilities of Nuclear Weapons* DNA-EM-1 (1972), and *The Effects of Nuclear Weapons* (1977), Stanford Research Institute, Appendix A of the U.S. National Council on Radiological protection (NCRP) symposium *The Control of Exposure to the Public of Ionising Radiation in the Event of Accident or Attack*, 1981.

‘Suppose the bomb dropped on Hiroshima had been 1,000 times as powerful ... It could not have killed 1,000 times as many people, but at most the entire population of Hiroshima ... [regarding the hype about various nuclear "overkill" exaggerations] there is enough water in the oceans to drown everyone ten times.’

- Professor Brian Martin, PhD (physics), 'The global health effects of nuclear war', *Current Affairs Bulletin*, Vol. 59, No. 7, December 1982, pp. 14-26.

In 1996, half a century after the nuclear detonations, data on cancers from the Hiroshima and Nagasaki survivors was published by D. A. Pierce et al. of the Radiation Effects Research Foundation, RERF (*Radiation Research* vol. 146 pp. 1-27; *Science* vol. 272, pp. 632-3) for 86,572 survivors, of whom 60% had received bomb doses of over 5 mSv (or 500 millirem in old units) suffering 4,741 cancers of which only 420 were due to radiation, consisting of 85 leukemias and 335 solid cancers.

‘Today we have a population of 2,383 [radium dial painter] cases for whom we have reliable body content measurements. . . . All 64 bone sarcoma [cancer] cases occurred in the 264 cases with more than 10 Gy [1,000 rads], while no sarcomas appeared in the 2,119 radium cases with less than 10 Gy.’

- Dr Robert Rowland, Director of the Center for Human Radiobiology, *Bone Sarcoma in Humans Induced by Radium: A Threshold Response?*, Proceedings of the 27th Annual Meeting, European Society for Radiation Biology, Radioprotection colloquies, Vol. 32CI (1997), pp. 331-8.

Zbigniew Jaworowski, 'Radiation Risk and Ethics: Health Hazards, Prevention Costs, and Radiophobia', *Physics Today*, April 2000, pp. 89-90:

‘... it is important to note that, given the effects of a few seconds of irradiation at Hiroshima and Nagasaki in 1945, a threshold near 200 mSv may be expected for leukemia and some solid tumors. [Sources: UNSCEAR, *Sources and Effects of Ionizing Radiation*, New York, 1994; W. F. Heidenreich, et al., *Radiat. Environ. Biophys.*, vol. 36 (1999), p. 205; and B. L. Cohen, *Radiat. Res.*, vol. 149 (1998), p. 525.] For a protracted lifetime natural exposure, a threshold may be set at a level of several thousand millisieverts for malignancies, of 10 grays for radium-226 in bones, and probably about 1.5-2.0 Gy for lung cancer after x-ray and gamma irradiation. [Sources: G. Jaikrishan, et al., *Radiation Research*, vol. 152 (1999), p. S149 (for natural exposure); R. D. Evans, *Health Physics*, vol. 27 (1974), p. 497 (for radium-226); H. H. Rossi and M. Zaider, *Radiat. Environ. Biophys.*, vol. 36 (1997), p. 85 (for radiogenic lung cancer).] The hormetic effects, such as a decreased cancer incidence at low doses and increased longevity, may be used as a guide for estimating practical thresholds and for setting standards. ...

‘Though about a hundred of the million daily spontaneous DNA damages per cell remain unrepaired or misrepaired, apoptosis, differentiation, necrosis, cell cycle regulation, intercellular interactions, and the immune system remove about 99% of the altered cells. [Source: R. D. Stewart, *Radiation Research*, vol. 152 (1999), p. 101.] ...

‘[Due to the Chernobyl nuclear accident in 1986] as of 1998 (according to UNSCEAR), a total of 1,791 thyroid cancers in children had been registered. About 93% of the youngsters have a prospect of full recovery. [Source: C. R. Moir and R. L. Telander, *Seminars in Pediatric Surgery*, vol. 3 (1994), p. 182.] ... The highest average thyroid doses in children (177 mGy) were accumulated in the Gomel region of Belarus. The highest incidence of thyroid cancer (17.9 cases per 100,000 children) occurred there in 1995, which means that the rate had increased by a factor of about 25 since 1987.

‘This rate increase was probably a result of improved screening [not radiation!]. Even then, the incidence rate for occult thyroid cancers was still a thousand times lower than it was for occult thyroid cancers in nonexposed populations (in the US, for example, the rate is 13,000 per 100,000 persons, and in Finland it is 35,600 per 100,000 persons). Thus, given the prospect of improved diagnostics, there is an enormous potential for detecting yet more [fictitious] "excess" thyroid cancers. In a study in the US that was performed during the period of active screening in 1974-79, it was determined that the incidence rate of malignant and other thyroid nodules was greater by 21-fold than it had been in the pre-1974 period. [Source: Z. Jaworowski, *21st Century Science and Technology*, vol. 11 (1998), issue 1, p. 14.]’

‘Professor **Edward Lewis** used data from four independent populations exposed to radiation to demonstrate that the incidence of leukemia was linearly related to the accumulated dose of radiation. ... Outspoken scientists, including Linus Pauling, used **Lewis**’s risk estimate to inform the public about the danger of nuclear fallout by estimating the number of leukemia deaths that would be caused by the test detonations. In May of 1957 **Lewis**’s analysis of the radiation-induced human leukemia data was published as a lead article in Science magazine. In June he presented it before the Joint Committee on Atomic Energy of the US Congress.’ – Abstract of thesis by Jennifer Caron, *Edward Lewis and Radioactive Fallout: the Impact of Caltech Biologists Over Nuclear Weapons Testing in the 1950s and 60s*, Caltech, January 2003.

Dr John F. Loutit of the Medical Research Council, Harwell, England, in 1962 wrote a book called Irradiation of Mice and Men (University of Chicago Press, Chicago and London), discrediting the pseudo-science from geneticist **Edward Lewis** on pages 61, and 78-79:

‘... Mole [R. H. Mole, *Brit. J. Radiol.*, v32, p497, 1959] gave different groups of mice an integrated total of 1,000 r of X-rays over a period of 4 weeks. But the dose-rate - and therefore the radiation-free time between fractions - was varied from 81 r/hour intermittently to 1.3 r/hour continuously. The incidence of leukemia varied from 40 per cent (within 15 months of the start of irradiation) in the first group to 5 per cent in the last compared with 2 per cent incidence in irradiated controls. ...

‘What **Lewis** did, and which I have not copied, was to include in his table another group - spontaneous incidence of leukemia (Brooklyn, N.Y.) - who are taken to have received only natural background radiation throughout life at the very low dose-rate of 0.1-0.2 rad per year: the best estimate is listed as 2×10^{-6} like the others in the table. But the value of 2×10^{-6} was not calculated from the data as for the other groups; it was merely adopted. By its adoption and multiplication with the average age in years of Brooklyners - 33.7 years and radiation dose per year of 0.1-0.2 rad - a mortality rate of 7 to 13 cases per million per year due to background radiation was deduced, or some 10-20 per cent of the observed rate of 65 cases per million per year. ...

‘All these points are very much against the basic hypothesis of **Lewis** of a linear relation of dose to leukemic effect irrespective of time. Unhappily it is not possible to claim for **Lewis**’s work as others have done, “It is now possible to calculate - within narrow limits - how many deaths from leukemia will result in any population from an increase in fall-out or other source of radiation” [Leading article in *Science*, vol. 125, p. 963, 1957]. This is just wishful journalese.

‘The burning questions to me are not what are the numbers of leukemia to be expected from atom bombs or radiotherapy, but what is to be expected from natural background Furthermore, to obtain estimates of these, I believe it is wrong to go to [1950s inaccurate, dose rate effect ignoring, data from] atom bombs, where the radiations are qualitatively different [i.e., including effects from neutrons] and, more important, the dose-rate outstandingly different.’

Samuel Glasstone and Philip J. Dolan, *The Effects of Nuclear Weapons*, 3rd ed., 1977, pp. 611-3:

‘From the earlier studies of radiation-induced mutations, made with fruitflies [by Nobel Laureate Hermann J. Muller and other geneticists who worked on plants, who falsely hyped their insect and plant data as valid for mammals like humans during the June 1957 U.S. Congressional Hearings on fallout effects], it appeared that the number (or frequency) of mutations in a given population ... is proportional to the total dose ... More recent experiments with mice, however, have shown that these conclusions need to be revised, at least for mammals. [*Mammals are biologically closer to humans, in respect to DNA repair mechanisms, than short-lived insects whose life cycles are too small to have forced the evolutionary development of advanced DNA repair mechanisms, unlike mammals that need to survive for decades before reproducing.*] When exposed to X-rays or gamma rays, the mutation frequency in these animals has been found to be dependent on the exposure (or dose) rate ...

‘At an exposure rate of 0.009 roentgen per minute [0.54 R/hour], the total mutation frequency in female mice is indistinguishable from the spontaneous frequency. [Emphasis added.] **There thus seems to be an exposure-rate threshold below which radiation-induced mutations are absent** ... with adult female mice ... a delay of at least seven weeks between exposure to a substantial dose of radiation, either neutrons or gamma rays, and conception causes the mutation frequency in the offspring to drop almost to zero. ...

recovery in the female members of the population would bring about a substantial reduction in the 'load' of mutations in subsequent generations.'

George Bernard Shaw cynically explains groupthink brainwashing bias:

'We cannot help it because we are so constituted that we always believe finally what we wish to believe. The moment we want to believe something, we suddenly see all the arguments for it and become blind to the arguments against it. The moment we want to disbelieve anything we have previously believed, we suddenly discover not only that there is a mass of evidence against, but that this evidence was staring us in the face all the time.'

From the essay titled 'What is Science?' by Professor Richard P. Feynman, presented at the fifteenth annual meeting of the National Science Teachers Association, 1966 in New York City, and published in *The Physics Teacher*, vol. 7, issue 6, 1968, pp. 313-20:

'... great religions are dissipated by following form without remembering the direct content of the teaching of the great leaders. In the same way, it is possible to follow form and call it science, but that is pseudo-science. In this way, we all suffer from the kind of tyranny we have today in the many institutions that have come under the influence of pseudoscientific advisers.

'We have many studies in teaching, for example, in which people make observations, make lists, do statistics, and so on, but these do not thereby become established science, established knowledge. They are merely an imitative form of science analogous to the South Sea Islanders' airfields - radio towers, etc., made out of wood. The islanders expect a great airplane to arrive. They even build wooden airplanes of the same shape as they see in the foreigners' airfields around them, but strangely enough, their wood planes do not fly. The result of this pseudoscientific imitation is to produce experts, which many of you are. ... you teachers, who are really teaching children at the bottom of the heap, can maybe doubt the experts. As a matter of fact, I can also define science another way: Science is the belief in the ignorance of experts.'

Richard P. Feynman, 'This Unscientific Age', in *The Meaning of It All*, Penguin Books, London, 1998, pages 106-9:

'Now, I say if a man is absolutely honest and wants to protect the populace from the effects of radioactivity, which is what our scientific friends often say they are trying to do, then he should work on the biggest number, not on the smallest number, and he should try to point out that the [natural cosmic] radioactivity which is absorbed by living in the city of Denver is so much more serious [than the smaller doses from nuclear explosions] ... that all the people of Denver ought to move to lower altitudes.'

Feynman is *not* making a point about low level radiation effects, but about the politics of ignoring the massive natural background radiation dose, while provoking hysteria over much smaller measured fallout pollution radiation doses. Why is the anti-nuclear lobby so concerned about banning nuclear energy - which is not possible even in principle since most of our nuclear radiation is from the sun and from supernova debris contaminating the Earth from the explosion that created the solar system circa 4,540 million years ago - when they could cause much bigger radiation dose reductions to the population by concentrating on the bigger radiation source, natural background radiation. It is possible to shield natural background radiation by the air, e.g. by moving the population of high altitude cities to lower altitudes where there is more air between the people and outer space, or banning the use of high-altitude jet aircraft. The anti-nuclear lobby, as Feynman stated back in the 1960s, didn't crusade to reduce the bigger dose from background radiation. Instead they chose to argue against the *much smaller* doses from fallout pollution. Feynman's argument is still today falsely interpreted as a political statement, when it is actually exposing pseudo-science and countering political propaganda. It is still ignored by the media. It has been pointed out by Senator Hickenlooper on page 1060 of the May-June 1957 U.S. Congressional Hearings before the Special Subcommittee on Radiation of the Joint Committee on Atomic Energy, *The Nature of Radioactive Fallout and Its Effects on Man*:

'I presume all of us would earnestly hope that we never had to test atomic weapons ... but by the same token I presume that we want to save thousands of lives in this country every year and we could just abolish the manufacture of [road accident causing] automobiles ...'

Dihydrogen monoxide is a potentially very dangerous chemical containing hydrogen and oxygen which has caused numerous severe burns by scalding and deaths by drowning, contributes to the greenhouse effect, accelerates corrosion and rusting of many metals, and contributes to the erosion of our natural landscape: 'Dihydrogen monoxide (DHMO) is colorless, odorless, tasteless, and kills uncounted thousands of people every year. Most of these deaths are caused by accidental inhalation of DHMO, but the dangers of dihydrogen monoxide do not end there. Prolonged exposure to its solid form causes severe tissue damage. Symptoms of DHMO ingestion can include excessive sweating and urination, and possibly a bloated feeling, nausea, vomiting and body electrolyte imbalance. For those who have become dependent, DHMO withdrawal means certain death.'

From the site for the petition against dihydrogen monoxide: 'Please sign this petition and help stop This Invisible Killer. Get the government to do something now. ... Contamination Is Reaching Epidemic Proportions! Quantities of dihydrogen monoxide have been found in almost every stream, lake, and reservoir in America today. But the pollution is global, and the contaminant has even been found in Antarctic ice. DHMO has caused millions of dollars of property damage in the Midwest, and recently California.'

A recent example of the pseudoscientific radiation 'education' masquerading as science that Feynman (quoted above) objected to in the 1960s was published in 2009 in an article called 'The proportion of childhood leukaemia incidence in Great Britain that may be caused by natural background ionizing radiation' in *Leukemia*, vol. 23 (2009), pp. 770–776, which falsely asserts - in contradiction to the evidence that the no-threshold model is *contrary* to Hiroshima and Nagasaki data: 'Risk models based primarily on studies of the Japanese atomic bomb survivors imply that low-level exposure to ionizing radiation, including ubiquitous natural background radiation, also raises the risk of childhood leukaemia. Using two sets of recently published leukaemia risk models and estimates of natural background radiation red-bone-marrow doses received by children, about 20% of the cases of childhood leukaemia in Great Britain are predicted to be attributable to this source.' The authors of this pseudoscience which is the opposite of the facts are R. Wakeford (Dalton Nuclear Institute, University of Manchester, Manchester, UK), G. M. Kendall (Childhood Cancer Research Group, Oxford, UK), and M. P. Little (Department of Epidemiology and Public Health, Imperial College, London, UK). It is disgusting and sinful that the facts about childhood leukemia are being lied on so blatantly for non-scientific purposes, and it is to be hoped that these leukemia investigators will either correct their errors or alternatively be banned from using scientific literature to promote false dogma for deception until they mend the error of their ways and repent their sins in this matter.

Protein P53, discovered only in 1979, is encoded by gene TP53, which occurs on human chromosome 17. P53 also occurs in other mammals including mice, rats and dogs. P53 is one of the proteins which continually repairs breaks in DNA, which easily breaks at body temperature: the DNA in each cell of the human body suffers at least two single strand breaks every second, and one double strand (i.e. complete double helix) DNA break occurs at least once every 2 hours (5% of radiation-induced DNA breaks are double strand breaks, while 0.007% of spontaneous DNA breaks at body temperature are double strand breaks)! Cancer occurs when several breaks in DNA happen to occur by chance at nearly the same time, giving several loose strand ends at once, which repair proteins like P53 then repair incorrectly, causing a mutation which can be proliferated somatically. This cannot occur when only one break occurs, because only two loose ends are produced, and P53 will reattach them correctly. But if low-LET ionising radiation levels are increased to a certain extent, causing more single strand breaks, P53 works faster and is able deal with faster breaks as they occur, so that multiple broken strand ends do not arise. This prevents DNA strands being repaired incorrectly, and prevents cancer - a result of mutation caused by faults in DNA - from arising. Too much radiation of course overloads the P53 repair mechanism, and then it cannot repair breaks as they occur, so multiple breaks begin to appear and loose ends of DNA are wrongly connected by P53, causing an increased cancer risk.

1. DNA-damaging free radicals are equivalent to a source of sparks which is always present naturally.
2. Cancer is equivalent the fire you get if the sparks are allowed to ignite the gasoline, i.e. if the free radicals are allowed to damage DNA without the damage being repaired.
3. Protein P53 is equivalent to a fire suppression system which is constantly damping out the sparks, or repairing the damaged DNA so that cancer doesn't occur.

In this way of thinking, the 'cause' of cancer will be down to a failure of a DNA repairing enzyme like protein P53 to repair the damage.

Dr Jane Orient, 'Homeland Security for Physicians', *Journal of American Physicians and Surgeons*, vol. 11, number 3, Fall 2006, pp. 75-9:

'In the 1960s, a group of activist physicians called Physicians for Social Responsibility (PSR) undertook to "educate the medical profession and the world about the dangers of nuclear weapons," beginning with a series of articles in the *New England Journal of Medicine*. [Note that journal was publishing information for anti-civil defense propaganda back in 1949, e.g. the article in volume 241, pp. 647-53 of *New England Journal of Medicine* which falsely suggests that civil defense in nuclear war would be hopeless because a single burned patient in 1947 with 40% body area burns required 42 oxygen tanks, 36 pints of plasma, 40 pints of whole blood, 104 pints of fluids, 4,300 m of gauze, 3 nurses and 2 doctors. First, only unclothed persons in direct line of sight without shadowing can get 40% body area burns from thermal radiation, second, duck and cover offers protection in a nuclear attack warning, and G. V. LeRoy had already published, two years earlier, in *J.A.M.A.*, volume 134, 1947, pp. 1143-8, that less than 5% of burns in Hiroshima and Nagasaki were caused by building and debris fires. In medicine it is always possible to expend vast resources on patients who are fatally injured. In a mass casualty situation, doctors should not give up just because they don't have unlimited resources; as at Hiroshima and Nagasaki, they would need to do their best with what they have.] On its website, www.psr.org, the group boasts that it "led the campaign to end atmospheric nuclear testing." With this campaign, the linear no-threshold (LNT) theory of radiation carcinogenesis became entrenched. It enabled activists to calculate enormous numbers of potential casualties by taking a tiny risk and multiplying it by the population of the earth. As an enduring consequence, the perceived risks of radiation are far out of proportion to actual risks, causing tremendous damage to the American nuclear industry. ... Efforts to save lives were not only futile, but unethical: Any suggestion that nuclear war could be survivable increased its likelihood and was thus tantamount to warmongering, PSR spokesmen warned. ...

'For the mindset that engendered and enables this situation, which jeopardizes the existence of the United States as a nation as well as the lives of millions of its citizens, some American physicians and certain prestigious medical organizations bear a heavy responsibility.

'Ethical physicians should stand ready to help patients to the best of their ability, and not advocate sacrificing them in the name of a political agenda. Even very basic knowledge, especially combined with simple, inexpensive advance preparations, could save countless lives.'

Dr Theodore B. Taylor, *Proceedings of the Second Interdisciplinary Conference on Selected Effects of a General War*, DASIAC Special Report 95, July 1969, vol. 2, DASA-2019-2, AD0696959, page 298 (also linked here):

'I must just say that as far as I'm concerned I have had some doubts about whether we should have had a civil defense program in the past. I have no doubt whatsoever now, for this reason, that I've seen ways in which the deterrent forces can fail to hold things off, so that no matter what our national leaders do, criminal organizations, what have you, groups of people over which we have no control whatsoever, can threaten other groups of people.'

This point of Taylor is the key fact on the morality. Suppose we disarm and abandon nuclear power. That won't stop fallout from a war, terrorists, or a foreign reactor blast from coming. Civil defence knowledge is needed. Even when America has ABM, it will be vulnerable to wind carried fallout. No quantity of pacifist hot air will protect people against radiation.

Charles J. Hitch and Roland B. McKean of the RAND Corporation in their 1960 book *The Economics of Defense in the Nuclear Age*, Harvard University Press, Massachusetts, pp. 310-57:

'With each side possessing only a small striking force, a small amount of cheating would give one side dominance over the other, and the incentive to cheat and prepare a preventative attack would be strong ... With each side possessing, say, several thousand missiles, a vast amount of cheating would be necessary to give one side the ability to wipe out the other's striking capability. ... the more extensive a disarmament agreement is, the smaller the force that a violator would have to hide in order to achieve complete

domination. Most obviously, “the abolition of the weapons necessary in a general or ‘unlimited’ war” would offer the most insuperable obstacles to an inspection plan, since the violator could gain an overwhelming advantage from the concealment of even a few weapons.’

Disarmament after World War I caused the following problem which led to World War II (reported by Winston S. Churchill in the London Daily Express newspaper of November 1, 1934):

‘Germany is arming secretly, illegally and rapidly. A reign of terror exists in Germany to keep secret the feverish and terrible preparations they are making.’

British Prime Minister Thatcher's address to the United Nations General Assembly on disarmament on 23 June 1982, where she pointed out that in the years since the nuclear attacks on Hiroshima and Nagasaki, 10 million people had been killed by 140 non-nuclear conflicts:

‘The fundamental risk to peace is not the existence of weapons of particular types. It is the disposition on the part of some states to impose change on others by resorting to force against other nations ... Aggressors do not start wars because an adversary has built up his own strength. They start wars because they believe they can gain more by going to war than by remaining at peace.’

J. D. Culshaw, the then Director of the U.K. Home Office Scientific Advisory Branch, stated in his article in the Scientific Advisory Branch journal *Fission Fragments*, September 1972 (issue No. 19), classified 'Restricted':

'Apart from those who don't want to know or can't be bothered, there seem to be three major schools of thought about the nature of a possible Third World War ...

* 'The first group think of something like World War II but a little worse ...

* '... the second of World War II but very much worse ...

* 'and the third group think in terms of a catastrophe ...

'When the Armageddon concept is in favour, the suggestion that such problems exist leads to "way out" research on these phenomena, and it is sufficient to mention a new catastrophic threat [e.g., 10 years later this was done by Sagan with "nuclear winter" hype, which turned out to be fake because modern concrete cities can't produce firestorms like 1940s wooden-built areas of Hamburg, Dresden and Hiroshima] to stimulate research into the possibilities of it arising. The underlying appeal of this concept is that if one could show that the execution of all out nuclear, biological or chemical warfare would precipitate the end of the world, no one but a mad man would be prepared to initiate such a war. [However, as history proves, plenty of mad men end up gaining power and leading countries into wars.]'

J. K. S. Clayton, then Director of the U.K. Home Office Scientific Advisory Branch, stated in his introduction, entitled *The Challenge - Why Home Defence?*, to the 1977 Home Office Scientific Advisory Branch *Training Manual for Scientific Advisers*:

'Since 1945 we have had nine wars - in Korea, Malaysia and Vietnam, between China and India, China and Russia, India and Pakistan and between the Arabs and Israelis on three occasions. We have had confrontations between East and West over Berlin, Formosa and Cuba. There have been civil wars or rebellions in no less than eleven countries and invasions or threatened invasions of another five. Whilst it is not suggested that all these incidents could have resulted in major wars, they do indicate the aptitude of mankind to resort to a forceful solution of its problems, sometimes with success. ...'

It is estimated that Mongol invaders exterminated 35 million Chinese between 1311-40, without modern weapons. Communist Chinese killed 26.3 million dissenters between 1949 and May 1965, according to detailed data compiled by the Russians on 7 April 1969. The Soviet communist dictatorship killed 40 million dissenters, mainly owners of small farms, between 1917-59. Conventional (non-nuclear) air raids on Japan killed 600,000 during World War II. The single incendiary air raid on Tokyo on 10 March 1945 killed 140,000 people (more than the total for nuclear bombs on Hiroshima and Nagasaki combined) at much less than the \$2 billion

expense of the Hiroshima and Nagasaki nuclear bombs! Non-nuclear air raids on Germany during World War II killed 593,000 civilians. The argument that the enemy will continue stocking megaton fallout weapons if we go to cleaner weapons is irrelevant for deterrence, since we're not planning to start war, just to credibly deter invasions. You should not try to lower your standards of warfare to those of your enemy to appease groupthink taboos, or you will end up like Britain's leaders in the 1930s, trying to collaborate with fascists for popular applause.

House of Lords debate *Nuclear Weapons: Destructive Power*, published in Hansard, 14 June 1988:

Lord Hailsham of Saint Marylebone: 'My Lords, if we are going into the question of lethality of weapons and seek thereby to isolate the nuclear as distinct from the so-called conventional range, is there not a danger that the public may think that Vimy, Passchendaele and Dresden were all right—sort of tea parties—and that nuclear war is something which in itself is unacceptable?'

Lord Trefgarne: 'My Lords, the policy of making Europe, or the rest of the world, safe for conventional war is not one that I support.'

House of Commons debate *Civil Defence* published in Hansard, 26 October 1983:

Mr. Bill Walker (Tayside, North): 'I remind the House that more people died at Stalingrad than at Hiroshima or Nagasaki. Yet people talk about fighting a conventional war in Europe as if it were acceptable. One rarely sees demonstrations by the so-called peace movement against a conventional war in Europe, but it could be nothing but ghastly and horrendous. The casualties would certainly exceed those at Stalingrad, and that cannot be acceptable to anyone who wants peace'

On 29 October 1982, Thatcher stated of the Berlin Wall: 'In every decade since the war the Soviet leaders have been reminded that their pitiless ideology only survives because it is maintained by force. But the day comes when the anger and frustration of the people is so great that force cannot contain it. Then the edifice cracks: the mortar crumbles ... one day, liberty will dawn on the other side of the wall.'

On 22 November 1990, she said: 'Today, we have a Europe ... where the threat to our security from the overwhelming conventional forces of the Warsaw Pact has been removed; where the Berlin Wall has been torn down and the Cold War is at an end. These immense changes did not come about by chance. They have been achieved by strength and resolution in defence, and by a refusal ever to be intimidated.'

'The case for civil defence stands regardless of whether a nuclear deterrent is necessary or not. ... Even if the U.K. were not itself at war, we would be as powerless to prevent fallout from a nuclear explosion crossing the sea as was King Canute to stop the tide.' - U.K. Home Office leaflet, *Civil Defence*, 1982.

'... peace cannot be guaranteed absolutely. Nobody can be certain, no matter what policies this or any other Government were to adopt, that the United Kingdom would never again be attacked. Also we cannot tell what form such an attack might take. Current strategic thinking suggests that if war were to break out it would start with a period of conventional hostilities of uncertain duration which might or might not escalate to nuclear conflict. ... while nuclear weapons exist there must always be a chance, however small, that they will be used against us [like gas bombs in World War II]. ... as a consequence of war between other nations in which we were not involved fall out from nuclear explosions could fall on a neutral Britain. ... conventional war is not the soft option that is sometimes suggested. It is also too easily forgotten that in World War II some 50 million people died and that conventional weapons have gone on killing people ever since 1945 without respite.' - *The Minister of State, Scottish Office (Lord Gray of Contin)*, House of Lords debate on Civil Defence (General Local Authority Functions) Regulations, Hansard, vol. 444, cc. 523-49, 1 November 1983.

'All of us are living in the light and warmth of a huge hydrogen bomb, 860,000 miles across and 93 million miles away, which is in a state of continuous explosion.' - Dr Isaac Asimov.

'Dr Edward Teller remarked recently that the origin of the earth was somewhat like the explosion of the atomic bomb...' - Dr Harold C. Urey, *The Planets: Their Origin and Development*, Yale University Press, New Haven, 1952, p. ix.

‘But compared with a supernova a hydrogen bomb is the merest trifle. For a supernova is equal in violence to about a million million million hydrogen bombs all going off at the same time.’ – Sir Fred Hoyle (1915-2001), *The Nature of the Universe*, Pelican Books, London, 1963, p. 75.

‘In fact, physicists find plenty of interesting and novel physics in the environment of a nuclear explosion. Some of the physical phenomena are valuable objects of research, and promise to provide further understanding of nature.’ – Dr Harold L. Brode, The RAND Corporation, ‘Review of Nuclear Weapons Effects,’ *Annual Review of Nuclear Science*, Volume 18, 1968, pp. 153-202.

‘It seems that similarities do exist between the processes of formation of single particles from nuclear explosions and formation of the solar system from the debris of a 4×10^{28} megatons of TNT equivalent, type Ia) supernova explosion. We may be able to learn much more about the origin of the earth, by further investigating the process of radioactive fallout from the nuclear weapons tests.’ – Dr Paul K. Kuroda (1917-2001), University of Arkansas, ‘Radioactive Fallout in Astronomical Settings: Plutonium-244 in the Early Environment of the Solar System,’ pages 83-96 of *Radionuclides in the Environment: A Symposium Sponsored By the Division of Nuclear Chemistry and Technology At the 155th Meeting of the American Chemical Society, San Francisco, California, April 1-3, 1968*, edited by Symposium Chairman Dr Edward C. Freiling (1922-2000) of the U.S. Naval Radiological Defense Laboratory, Advances in Chemistry Series No. 93, American Chemical Society, Washington, D.C., 1970.

Dr Paul K. Kuroda (1917-2001) in 1956 correctly predicted the existence of water-moderated natural nuclear reactors in flooded uranium ore seams, which were discovered in 1972 by French physicist Francis Perrin in three ore deposits at Oklo in Gabon, where sixteen sites operated as natural nuclear reactors with self-sustaining nuclear fission 2,000 million years ago, each lasting several hundred thousand years, averaging 100 kW. The radioactive waste they generated remained in situ for a period of 2,000,000,000 years without escaping. They were discovered during investigations into why the U-235 content of the uranium in the ore was only 0.7171% instead of the normal 0.7202%. Some of the ore, in the middle of the natural reactors, had a U-235 isotopic abundance of just 0.440%. Kuroda's brilliant paper is entitled, 'On the Nuclear Physical Stability of the Uranium Minerals', published in the *Journal of Chemical Physics*, vol. 25 (1956), pp. 781–782 and 1295–1296.

A type Ia supernova explosion, always yielding 4×10^{28} megatons of TNT equivalent, results from the critical mass effect of the collapse of a white dwarf as soon as its mass exceeds 1.4 solar masses due to matter falling in from a companion star. The degenerate electron gas in the white dwarf is then no longer able to support the pressure from the weight of gas, which collapses, thereby releasing enough gravitational potential energy as heat and pressure to cause the fusion of carbon and oxygen into heavy elements, creating massive amounts of radioactive nuclides, particularly intensely radioactive nickel-56, but half of all other nuclides (including uranium and heavier) are also produced by the 'R' (rapid) process of successive neutron captures by fusion products in supernovae explosions. Type Ia supernovae occur typically every 400 years in the Milky Way galaxy. On 4 July 1054, Chinese astronomers observed in the sky (without optical instruments) the bright supernova in the constellation Taurus which today is still visible as the Crab Nebula through telescopes. The Crab Nebula debris has a diameter now of 7 light years and is still expanding at 800 miles/second. The supernova debris shock wave triggers star formation when it encounters hydrogen gas in space by compressing it and seeding it with debris; bright stars are observed in the Orion Halo, the 300 light year diameter remains of a supernova. It is estimated that when the solar system was forming 4,540 million years ago, a supernova occurred around 100 light years away, and the heavy radioactive debris shock wave expanded at 1,000 miles/second. Most of the heavy elements including iron, silicon and calcium in the Earth and people are the stable end products of originally radioactive decay chains from the space burst fallout of a 7×10^{26} megatons thermonuclear explosion, created by fusion and successive neutron captures after the implosion of a white dwarf; a supernova explosion.

How would a 10^{55} megaton hydrogen bomb explosion differ from the big bang? Ignorant answers biased in favour of curved spacetime (ignoring quantum gravity!) abound, such as claims that explosions can't take place in 'outer space' (disagreeing with the facts from nuclear space bursts by Russia and America in 1962, not to mention natural supernova explosions in space!) and that explosions produce sound waves in air by definition! There are indeed major differences in the nuclear reactions between the big bang and a nuclear bomb. But it is helpful to notice the solid physical fact that implosion systems suggest the mechanism of gravitation: in implosion, TNT is well-known to produce an *inward* force on a bomb core, but Newton's 3rd law says there is an

equal and opposite reaction force *outward*. In fact, you can't have a radially outward force without an inward reaction force! It's the rocket principle. The rocket accelerates (with force $F = ma$) *forward* by virtue of the recoil from accelerating the exhaust gas (with force $F = -ma$) in the *opposite* direction! Nothing massive accelerates without an equal and opposite reaction force. Applying this *fact* to the measured $6 \times 10^{-10} \text{ ms}^{-2} \sim Hc$ cosmological acceleration of matter radially outward from observers in the universe which was predicted accurately in 1996 and later observationally discovered in 1999 (by Perlmutter, et al.), we find an outward force $F = ma$ and inward reaction force by the 3rd law. The inward force allows quantitative predictions, and is mediated by gravitons, predicting gravitation in a checkable way (unlike string theory, which is just a landscape of 10^{500} different perturbative theories and so can't make any falsifiable predictions about gravity). So it seems as if nuclear explosions do indeed provide helpful analogies to natural features of the world, and the mainstream lambda-CDM model of cosmology - with its force-fitted unobserved *ad hoc* speculative 'dark energy' - ignores and sweeps under the rug major quantum gravity effects which increase the physical understanding of particle physics, particularly force unification and the relation of gravitation to the existing electroweak $SU(2) \times U(1)$ section of the Standard Model of fundamental forces.

Richard Lieu, Physics Department, University of Alabama, 'Lambda-CDM cosmology: how much suppression of credible evidence, and does the model really lead its competitors, using all evidence?', <http://arxiv.org/abs/0705.2462>.

Even Einstein grasped the possibility that general relativity's lambda-CDM model is at best just a classical approximation to quantum field theory, at the end of his life when he wrote to Besso in 1954:

'I consider it quite possible that physics cannot be based on the [classical differential equation] field principle, i.e., on continuous structures. In that case, nothing remains of my entire castle in the air, [non-quantum] gravitation theory included ...'

'Science is the organized skepticism in the reliability of expert opinion.' - Professor Richard P. Feynman (quoted by Professor Lee Smolin, *The Trouble with Physics*, Houghton-Mifflin, New York, 2006, p. 307).

'The expression of dissenting views may not seem like much of a threat to a powerful organization, yet sometimes it triggers an amazingly hostile response. The reason is that a single dissenter can puncture an illusion of unanimity. ... Among those suppressed have been the engineers who tried to point out problems with the Challenger space shuttle that caused it to blow up. More fundamentally, suppression is a denial of the open dialogue and debate that are the foundation of a free society. Even worse than the silencing of dissidents is the chilling effect such practices have on others. For every individual who speaks out, numerous others decide to play it safe and keep quiet. More serious than external censorship is the problem of self-censorship.'

— Professor Brian Martin, University of Wollongong, 'Stamping Out Dissent', *Newsweek*, 26 April 1993, pp. 49-50

In 1896, Sir James Mackenzie-Davidson asked Wilhelm Röntgen, who discovered X-rays in 1895: 'What did you think?' Röntgen replied: 'I did not think, I investigated.' The reason? Cathode ray expert J. J. Thomson in 1894 saw glass fluorescence far from a tube, but due to prejudice (expert opinion) he avoided investigating that X-ray evidence! 'Science is the organized skepticism in the reliability of expert opinion.' - Richard Feynman, in Lee Smolin, *The Trouble with Physics*, Houghton-Mifflin, 2006, p. 307.

Mathematical symbols in this blog: your computer's browser needs access to standard character symbol sets to display Greek symbols for mathematical physics. If you don't have the symbol character sets installed, the density symbol ' ρ ' (*Rho*) will appear as 'r' and the ' π ' (*Pi*) symbol will as 'p', causing confusion with the use of 'r' for radius and 'p' for momentum in formulae. This problem exists with Mozilla Firefox 3, but not with Microsoft Explorer which displays Greek symbols.

About Me



Name: nige

Currently designing secure active server page (ASP) front ends for client SQL databases. In 1982 I began programming in basic, and at college learned Fortran while a physics undergraduate a decade later. Afterwards, I switched from mainstream physics and mathematical education to part-time programming student, while working in a series of jobs

including four years in credit control. [www.quantumfieldtheory.org http://glasstone.blogspot.co.uk/2015/07/capabilities-of-nuclear-weapons.html/](http://glasstone.blogspot.co.uk/2015/07/capabilities-of-nuclear-weapons.html/) <http://www.math.columbia.edu/~woit/wordpress/?p=273#comment-5322>.
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<http://www.math.columbia.edu/~woit/wordpress/?p=215#comment-4082>.

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From 1945-62, America tested 216 nuclear weapons in the atmosphere, totalling 154 megatons, with a mean yield of 713 kilotons

From 1949-62, Russia tested 214 nuclear weapons in the atmosphere, totalling 281 megatons, with a mean yield of 1.31 megatons

From 1952-8, Britain tested 21 nuclear weapons in the atmosphere, totalling 10.8 megatons, with a mean yield of 514 kilotons

From 1960-74, France tested 46 nuclear weapons in the atmosphere, totalling 11.4 megatons, with a mean yield of 248 kilotons

From 1964-80, China tested 23 nuclear weapons in the atmosphere, totalling 21.5 megatons, with a mean yield of 935 kilotons

In summary, from 1945-80, America, Russia, Britain, France and China tested 520 nuclear weapons in the atmosphere, totalling 478.7 megatons, with a mean yield of 921 kilotons

Mean yield of the 5,192 nuclear warheads and bombs in the deployed Russian nuclear stockpile as of January 2009: 0.317 Mt. Total yield: 1,646 Mt.

Mean yield of the 4,552 nuclear warheads and bombs in the deployed U.S. nuclear stockpile as of January 2007: 0.257 Mt. Total yield: 1,172 Mt.

For diffraction damage where damage areas scale as the two-thirds power of explosive yield, this stockpile's area damage potential can be compared to the 20,000,000 conventional bombs of 100 kg size (2 megatons of TNT equivalent total *energy*) dropped on Germany during World War II: (Total nuclear bomb blast diffraction damaged ground *area*)/(Total conventional blast diffraction damaged ground *area* to Germany during World War II) = $[4,552 * (0.257 \text{ Mt})^{2/3}] / [20,000,000 * (0.0000001 \text{ Mt})^{2/3}] = 1,840/431 = 4.3$. Thus, although the entire U.S. stockpile has a TNT *energy* equivalent to 586 times that of the 2 megatons of conventional bombs dropped on Germany in World War II, it is only capable of causing 4.3 times as much diffraction type damage area, because *any given amount of explosive energy is far more efficient when distributed over many small explosions than in a single large explosion! Large explosions are inefficient because they cause unintended collateral damage, wasting energy off the target area and injuring or damaging unintended targets!*

In a controlled sample of 36,500 survivors, 89 people got leukemia over a 40 year period, above the number in the unexposed control group. (Data: *Radiation Research*, volume 146, 1996, pages 1-27.) Over 40 years, in 36,500 survivors monitored, there were 176 leukemia deaths which is 89 more than the control (unexposed) group got naturally. There were 4,687 other cancer deaths, but that was merely 339 above the number in the control (unexposed) group, so this is statistically a much smaller rise than the leukemia result. Natural leukemia rates, which are very low in any case, were increased by 51% in the irradiated survivors, but other cancers were merely increased by just 7%. Adding all the cancers together, the total was 4,863 cancers (virtually all natural cancer, nothing whatsoever to do with radiation), which is just 428 more than the unexposed control group. Hence, the total increase over the natural cancer rate due to bomb exposure was only 9%, spread over a period of 40 years. There was no increase whatsoever in genetic malformations.

There should be a note here about how unnatural radioactive pollution is (not) in space: the earth's atmosphere is a radiation shield equivalent to being protected behind a layer of water 10 metres thick. This reduces the cosmic background radiation by a factor of 100 of what it would be without the earth's atmosphere. Away from the largely uninhabited poles, the Earth's magnetic field also protects us against charged cosmic radiations, which are deflected and end up spiralling around the magnetic field at high altitude, in the Van Allen trapped radiation belts. *On the Moon, for example, there is no atmosphere or significant magnetic field so the natural*

background radiation exposure rate at solar minimum is 1 milliRoentgen per hour (about 10 microSieverts/hour) some 100 times that on the Earth (0.010 milliRoentgen per hour or about 0.10 microSieverts/hour). The Apollo astronauts visiting the Moon wore dosimeters and they received an average of 275 milliRoentgens (about 2.75 milliSieverts) of radiation (well over a year's exposure to natural background at sea level) in over just 19.5 days. It is a lot more than that during a solar flare, which is one of the concerns for astronauts to avoid (micrometeorites are another concern in a soft spacesuit).

The higher up you are above sea level, the less of the atmosphere there is between you and space, so the less shielding you have to protect you from the intense cosmic space radiations (emitted by thermonuclear reactors we call 'stars', as well as distant supernovae explosions). At sea level, the air above you constitutes a radiation shield of 10 tons per square metre or the equivalent of having a 10 metres thick water shield between you and outer space. As you go up a mountain or up in an aircraft, the amount of atmosphere between you and space decreases, thus radiation levels increase with altitude because there is less shielding. *The normal background radiation exposure rate shoots up by a factor of 20, from 0.010 to 0.20 milliRoentgens per hour, when any airplane ascends from sea level to 36,000 feet cruising altitude.* (The now obsolete British Concorde supersonic transport used to maintain radiation-monitoring equipment so that it could drop to lower-altitude flight routes if excessive cosmic radiation due to solar storms were detected.) Flight aircrew get more radiation exposure than many nuclear industry workers at nuclear power plants. Residents of the high altitude city of Denver get 100 milliRoentgens (about 1 milliSievert) more annual exposure than a resident of Washington, D.C., but the mainstream anti-radiation cranks don't campaign for the city to be shut to save kids radiation exposure, for mountain climbing to be banned, etc.!

1994 revised Introduction to Kearny's Nuclear War Survival Skills, by Dr Edward Teller, January 14, 1994:

'If defense is neglected these weapons of attack become effective. They become available and desirable in the eyes of an imperialist dictator, even if his means are limited. Weapons of mass destruction could become equalizers between nations big and small, highly developed and primitive, if defense is neglected. If defense is developed and if it is made available for general prevention of war, weapons of aggression will become less desirable. Thus defense makes war itself less probable. ... One psychological defense mechanism against danger is to forget about it. This attitude is as common as it is disastrous. It may turn a limited danger into a fatal difficulty.'

Advice of Robert Watson-Watt (Chief Scientist on the World War II British Radar Project, defending Britain against enemy attacks): 'Give them the third best to go on with, the second best comes too late, the best never comes.'

From Wikipedia (a source of groupthink): 'Groupthink is a type of thought exhibited by group members who try to minimize conflict and reach consensus without critically testing, analyzing, and evaluating ideas. Individual creativity, uniqueness, and independent thinking are lost in the pursuit of group cohesiveness, as are the advantages of reasonable balance in choice and thought that might normally be obtained by making decisions as a group. During groupthink, members of the group avoid promoting viewpoints outside the comfort zone of consensus thinking. A variety of motives for this may exist such as a desire to avoid being seen as foolish, or a desire to avoid embarrassing or angering other members of the group. Groupthink may cause groups to make hasty, irrational decisions, where individual doubts are set aside, for fear of upsetting the group's balance.'

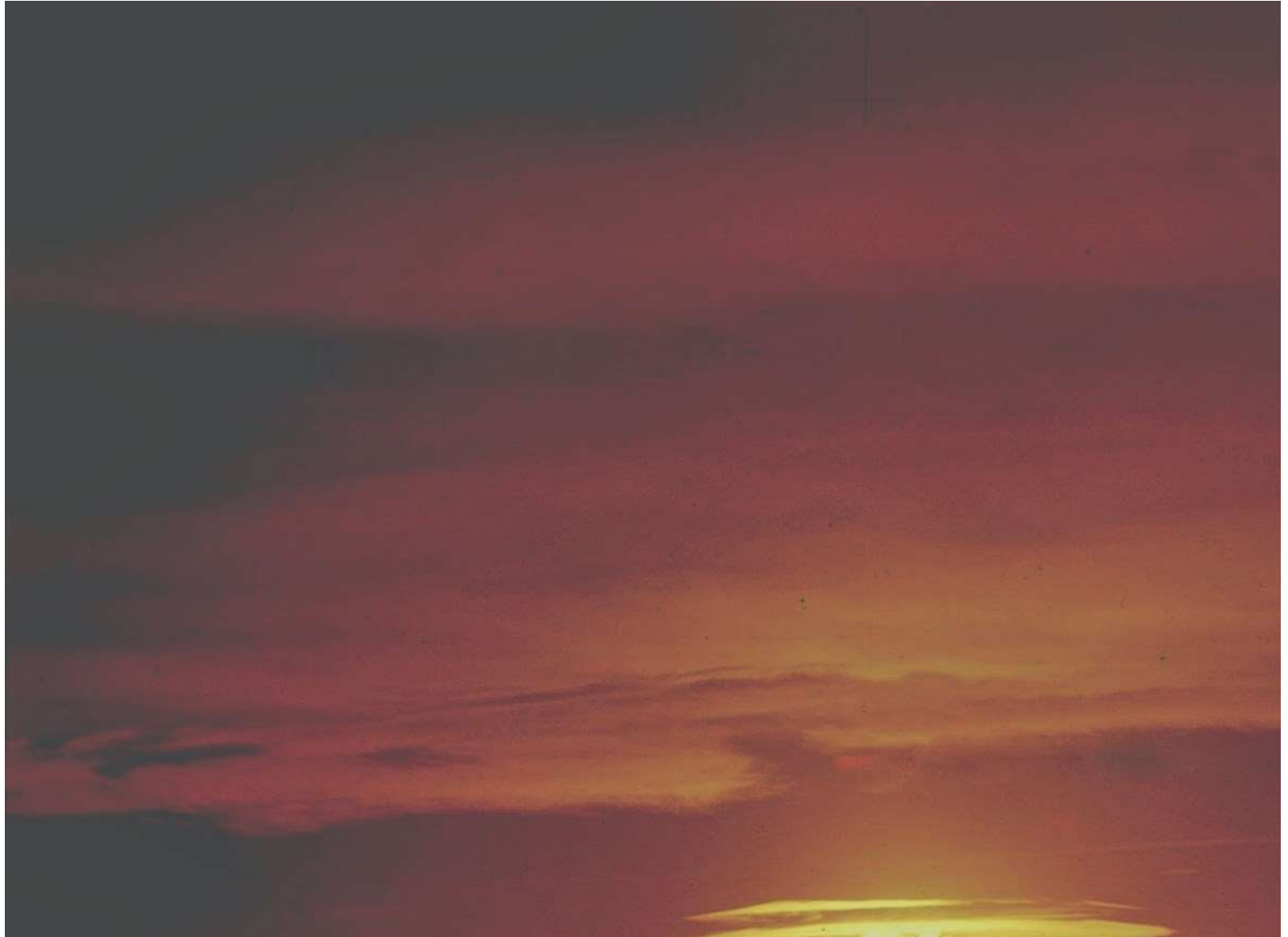
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- ◆ The H-Bomb and the birth of the Universe: 'For 100 Million years after time began, the universe was dark as pitch. The clouds of hydrogen condensed into huge nuclear fireballs. That moment-when the universe first lit up-was the moment of creation that matters...'
- ◆ American *EMP Interaction* manual: comprehensive theory of both the EMP source mechanism and the EMP pick-up in cables and antenna by electromagnetic inductance (30 MB PDF file)
- ◆ British Mission to Japan, *The Effects of the Atomic Bombs at Hiroshima and Nagasaki*, H. M. Stationery Office, London, 1946 (high quality 42.5 MB pdf file).
- ◆ 1950 edition (high quality 82.7 MB PDF file) of U.S. Department of Defense book *The Effects of Atomic Weapons*
- ◆ 1957 edition (high quality 90.8 MB PDF file) of subsequently deleted sections on nuclear tests of civil defense countermeasures from U.S. Department of Defense book *The Effects of Nuclear Weapons*
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- ◆ Bill Forstchen, "One Second After" book about EMP attack risk and its effects on USA.
- ◆ U.S. Department of Energy Opennet Documents Online (includes many Nevada and Pacific nuclear test reports as PDF files)
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- ◆ Highlights from ABM testing history
- ◆ THAAD Goes Another ABM Test
- ◆ Alex Wellerstein's Restricted Data blog contains some interesting news (but beware of his uncritical use of unobstructed dry desert and nude skin thermal radiation and other effects predictions from the 1977 edition of Glasstone and Dolan; he deletes critically objective comments and pretends that honest criticisms of propaganda as being ignorant deception are rude as an excuse for ignoring the facts and refusing to engage in objective discussion of controversial aspects of this topic; basically if you pay homage and engage in groupthink bias you may be tolerated).
- ◆ Carey Sublette's Nuclear Weapon Archive (it contains errors from Chuck Hansen's compilation, and it is concentrated on bomb building, not on civil defence countermeasure evaluations done at nuclear tests; note that Chuck Hansen's books and CDs

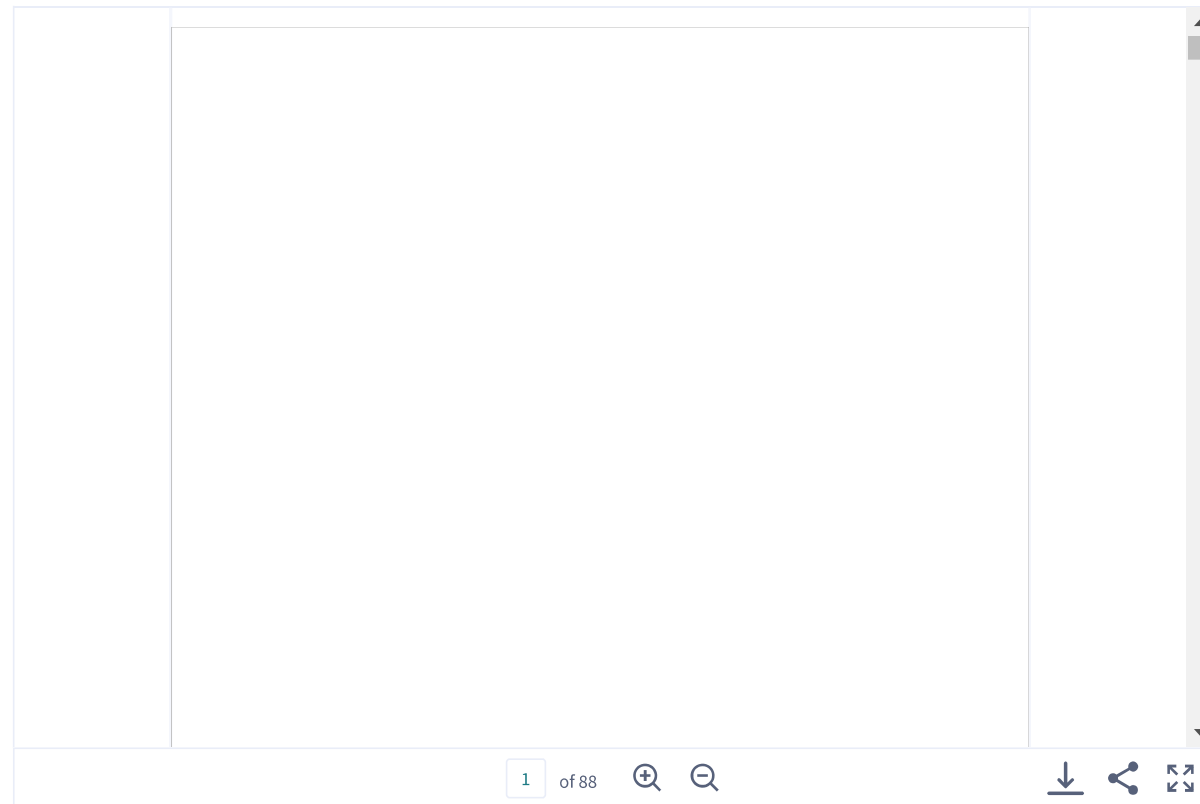
give a false quotation from Neil O' Hines's book *Proving Ground* on the effects of the 1952 Mike explosion on nearby Engebi Island, where Hines later in the book states that the native rats in fact *survived the intense close-in blast, heat and fallout under a few unches of soil, despite the initial ignorant belief that they could not have survived!!!*)

- Quantum Field Theory
- Los Alamos Science journal
- Excellent particle physics gauge theory (fundamental force interaction) issue of Los Alamos Science journal
-





[Chemical and Biological Warfare Protective Measures](#)



Russian GRU spies, Novichok, and World War III: ho...



Americium-241 gamma radiation from smoke detectors...



New data on the Hiroshima firestorm on fallout eff...



The January 1955 secret Fallout symposium of the A...



Racist socialist and hatred inciting propaganda fr...



1929 photo of Dr Samuel Glasstone for a Leeds Merc...



The North Korean Missile Crisis (it's more of a ha...



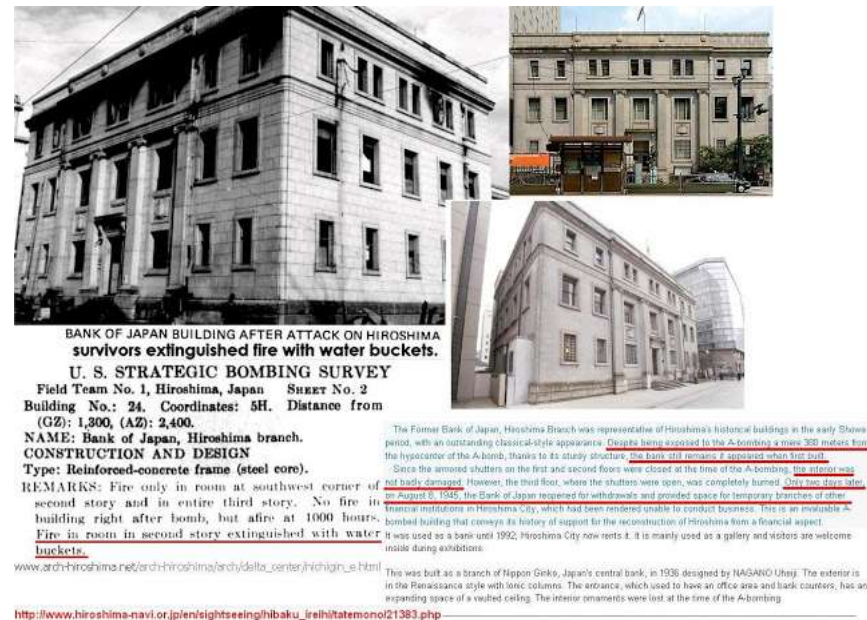
New photos of non-collapsed Nevada houses after 5 ...



British Restricted manual, An Introduction to Nucl...



Anti nuclear terrorist Jeremy Corbyn



The Bank of Japan, Hiroshima, survived 380 m from Ground Zero, within the firestorm area, when fires were extinguished by water buckets by its survivors, the majority of people in the building having survived. Secret US Strategic Bombing Survey report proves civil defense for modern concrete buildings is effective. The building was reopened as a bank on 8 August, merely two days after nuclear attack, and continued in use as a bank until 1992. It remains in Hiroshima. This beautifully designed and sturdy reinforced concrete building was designed in 1936 by Nagano Uheiji. Cook's law: "Any man called Godwin who claims it is immoral to learn the lessons from the results of Nazi racist eugenics pseudoscience and to apply those lessons to those terrible media dominating celebrity-taboo-lovers who appease, cover-up, or defend the continuation of an evil, irrational pseudoscience which is causing unnecessary suffering today, is defending injustice, inhumanity and irrational consensus evil and is not behaving as a humane, objective, person. We need to ensure that the worst mistakes of the past are never repeated, if we are just, moral and caring towards our fellow human beings who do not deserve to be fed lies and dangerously complacent one-sided, biased propaganda based on a populist love of obsolete dogma, and/or a hatred of the search for objective fact, by pseudo-educationalists who prefer to live in utopia than in the real world of their fellow folk!"